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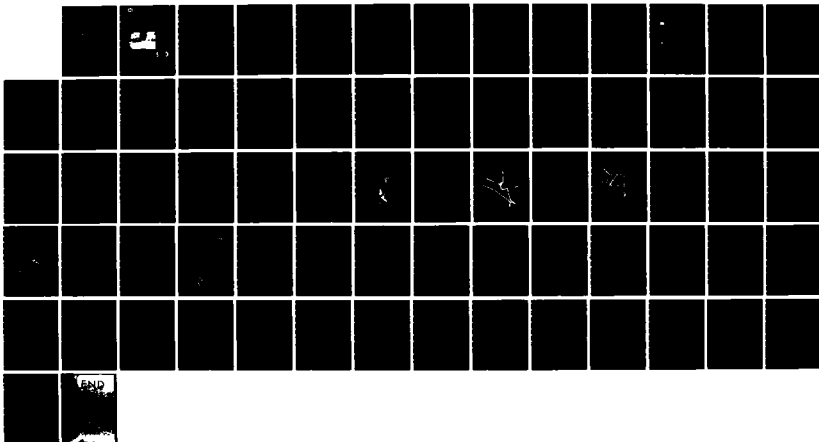
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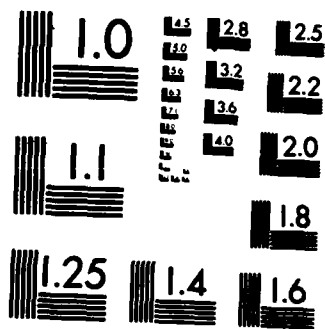
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Wilson Lake, Kansas

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Archeology Department
Kansas State Historical Society

Cultural Resources Survey of Public Use Areas

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September 1982

By Don D. Rowlison
Thomas A. Witty, Jr.
Principal Investigator

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OF PUBLIC USE AREAS
AT WILSON LAKE, KANSAS

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Archeology Department
Kansas State Historical Society



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ABSTRACT

In October of 1979, an archeological sample survey of four Public Use Areas of Wilson lake in north central Kansas was conducted by the Kansas State Historical Society for the U.S. Army Corps of Engineers, Kansas City District. More than 15% of the designated areas were investigated during the pedestrian survey which was complemented with limited subsurface testing. Three sites were recorded although no cultural materials were collected since they consist of a mound of probable aboriginal construction, the remnants of an historic structure, and an area where paleontological remains were recovered. The survey indicated that the potential for archeological sites at Wilson lake, Kansas is greater nearer the Saline river, in areas probably more suitable for habitation than those now comprising the present Public Use Areas.

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FOREWORD

During the last two weeks of October, 1979, an archeological survey of selected portions of the present Public Use Areas at Wilson lake, Kansas was conducted. Many people have contributed to the survey in various ways. Previous archeological studies and reports by several individuals were utilized for background information to formulate a methodological approach for the actual field study.

Thomas A. Witty, Jr., who conducted the first intensive archeological investigations within the Wilson lake area in the 1960s, served as the Principal Investigator for this project. The U.S. Army Corps of Engineers, Kansas City District were helpful in providing any project related information upon request. Special thanks are due the personnel at the Wilson lake project office. They were instrumental in providing regional information, additional maps and records, plus support in coordinating the survey.

Belinda Neal and Barbara Tibbitts of the Society's Archeological Department were responsible for channeling communication and typing this report.

INTRODUCTION

This report is concerned with the archeological survey of the established Public Use Areas associated with Wilson lake, Kansas, which was conducted in the autumn of 1979 by the Archeology Department of the Kansas State Historical Society. The U.S. Army Corps of Engineers, Kansas City District issued Contract DACW41-79-M-0893, dated March 28, 1979, for a cultural resource field study of at least 15% of the areas comprising Lucas, Minooka, Otoe, and Sylvan parks.

The general area of the project lies along the Saline river in Russell and Lincoln counties of central Kansas. The parks surveyed are primarily located in the eastern half of the lake related property and are currently being utilized by the public for camping and other recreational activities.

Wilson lake is operated by the Corps of Engineers, Kansas City District and is comprised of approximately 21,770 acres (8,813.7 ha) of which 9,000 acres (3,643.7 ha) are inundated by the multipurpose pool, held by a rolled earth fill dam. The multipurpose pool level has been established at an elevation of 1,516 feet (462.19 m) above mean sea level and the flood pool level is along the 1,554 feet (474 m) contour above mean sea level (U.S. Army Corps of Engineers 1975).

The Scope of Work dictated that the archeological study was to be performed by the contractor as called for in the National Historic Preservation Act of 1966 (PL 89-665) which was authorized for funding under Public Law 86-523 as amended by Public Law 93-291. This report provides documented evidence of compliance with Executive Order 11593 of May, 1971.

The Scope of Work included several specific criteria to be considered for the completion of this project. These included:

- 1) An archeological survey of 15% of each of the Wilson lake Public Use Areas
- 2) Limited testing, but no extensive excavation
- 3) Recording sites and associated features with photographs, drawings, maps, graphs, etc.
- 4) The collection of specimens for absolute dating, when appropriate
- 5) The processing, cataloging, and curation of recovered materials and records

- 6) The identification of cultural materials to add to the data base for future archeological research
- 7) The metric system would be utilized for all measurements
- 8) A comprehensive report of the project which would include descriptions and illustrations of the study, the recovered material, the methodology, etc.

All maps, photographs, and records, resulting from this project, are housed in the Archeology Department of the Kansas State Historical Society, Topeka.

THE DRAINAGES AND LAKES
OF
CENTRAL KANSAS

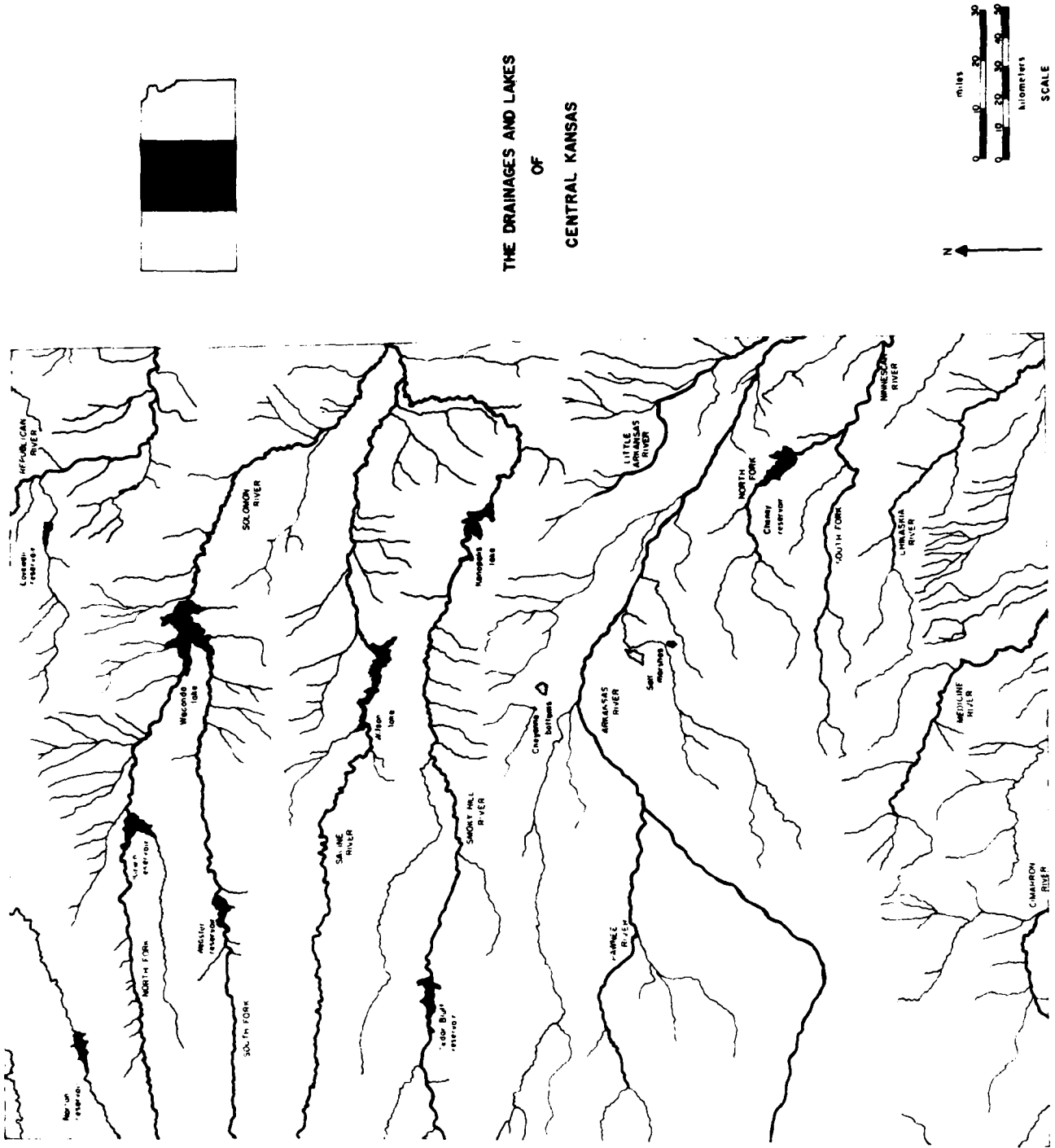


FIGURE 1 Wilson lake and related drainages in central Kansas

ENVIRONMENTAL SETTING

Wilson lake is on the Saline river which is a part of the Missouri river drainage. The lake primarily lies in eastern Russell county although a small portion extends into western Lincoln county, Kansas. The construction of Wilson lake began in 1960 and water impoundment began in 1964. The lake and the associated dam were designed for flood protection and public recreation (Corps of Engineers, pamphlet, 1978).

The headwaters of the Saline are in the High Plains of southwestern Thomas county. From its source, the stream meanders eastward through Thomas and Sheridan counties, a small portion of southwestern Graham county, then through Trego and Ellis counties. From north central Ellis county, the river trends southeastwardly through Russell county, where it flows into Wilson lake. The stream continues eastward until it merges with the Smoky Hill river just east of Salina. In all, the Saline river is approximately 235 miles (378 km) long and drains an area of nearly 3,311 square miles (5,327 square km) (Root 1935:149).

The Smoky Hills is a geographically distinct region of maturely dissected hills which ranges from approximately 20 miles (32 km) to 40 miles (64 km) in width. This hilly belt forms the eastern portion of the Dissected High Plains province and is bordered on the west by the Blue Hills. The Saline and Smoky Hill rivers have cut through the rock strata of these hills to form a terrain of dissected slopes which usually do not have well developed stream terraces.

Geologically, the outcrops of Wilson lake are primarily comprised of strata dating from the Cretaceous age, when the region was inundated by a sea. The sandstone, limestone, shale, and coal members of these formations have been eroded to form a rugged topography of steep slopes and long escarpments along the streams. The most prominent formation within the vicinity of the lake, is the friable Dakota sandstone. Fence posts were once quarried from the upper limestone formations in the area. At one time, a relatively poor grade of coal was also mined within the lake project boundaries (Andreas 1883: 1283).

Presently, the Wilson lake area supports a variety of floral and faunal forms, some of which are indigenous and others which have been introduced and have successfully adapted to the vicinity.

The predominant vegetative form is grass, which covers the majority of the area. The dominant types are little bluestem, buffalo, grama, and western wheat grasses. A variety of other flora are commonly found intermixed with the grasses of the area; these additional forms include yucca, prickly pear, thistles, perennial shrubs and prairie flowers, scrub sage, etc.

Prior to the establishment of homesteads and farmsteads in the vicinity, trees were primarily found along streams and in other protected areas. Many of the varieties of trees presently within the study area were introduced and cultured during the early Euro-American settlement, and for some time afterward. Those trees identified as being indigenous include cottonwood, ash, box elder, oak, walnut, hackberry, mulberry, willow, and elm (Lincoln county clippings 1:50). Red cedar is also found in the area along with a variety of shrubs such as plum, chokecherry, currant, sumac, coralberry, etc. Wild grapes may also be found along the streams.

The land surrounding the project area is utilized for agricultural purposes such as rangeland and farmland. Crops consist of cereal grains, forage, and legumes of several varieties. The latter are primarily grown on the bottomlands.

The vicinity still supports several forms of upland and riverine wildlife including at least 211 species of birds which have been identified by Corps rangers (Cannon 1978). The species include large birds of prey, waterfowl and shore birds, numerous varieties of song and insectivorous birds, plus upland game birds. Other wildlife consist of predators such as coyote, fox, and possibly bobcat, deer; several varieties of rodents including beavers, muskrats, squirrels, gophers, rabbits, mice, etc.; plus skunks, raccoons, opossums, and badgers. Fish, turtles, molluscs, frogs, snakes, etc. inhabit the streams and lake whereas the uplands contain snakes and lizards which have adapted to differing ecotones.

The area of Russell and Lincoln counties has been often subjected to the extremes of the Central Plain's weather patterns. Temperatures and precipitation vary from month to month and more generally from year to year. Winters are most often cold and dry whereas the summers are warm and sunny. Records indicate that January is usually the coldest and driest month, June has the most precipitation, and July is the hottest. The average precipitation for the two counties is 26.76 inches (68 cm) annually (U.S. Department of Commerce,

pamphlet, 1973). The warmest temperature recorded in Lincoln county was 119° F (48.3° C) and in Russell county 118° F (47.7° C). The coldest temperatures on record are -25° F (-31.6° C) and -28° F (-33° C) for the two counties, respectively (Flora 1948:167-173). The annual mean temperature is 55° F (13° C) (U.S. Department of Commerce 1973). The frost-free period of the area averages between the later part of April and the middle of October, or approximately 172 days (Flora 1948:223-225).

No completed soil studies have been made available for reference. Field observations indicate that most soils of the area have been primarily derived from the weathering of the parent limestone and sandstone formations of the vicinity and intermixed with other transported alluvial, colluvial and eolian varieties of which some appear to be of a Pleistocene origin. Soils in the lake area are generally considered to be of the Chernozem and Chestnut Great Soil Group. These soils are generally shallow and have developed under prairie conditions associated with relatively low rainfall (U.S. Army Corps of Engineers 1977:2-2).

CULTURAL HISTORY

A brief cultural-historical sketch of the Wilson lake region can be made from the present literature concerning the area. The interpretations of extinct nonliterate cultures are primarily based upon theoretical reconstructions obtained from the limited archeological data. These data suggest that the cultural time range represented in central Kansas is quite extensive and probably includes an aboriginal occupation of several thousand years.

The earliest recognized, and most poorly represented time of human habitation within the Great Plains region is termed the Paleo-Indian period, which began at least 12,000 years ago. Cultural remains have been interpreted as representing small nomadic bands of hunters and gatherers who utilized now extinct megafauna such as mammoth and larger species of bison. Possibly climatic fluctuations, coupled with the extinction of the large mammal varieties in the Plains region, and other adaptation factors, caused the Paleo-Indian groups to be supplanted by the later peoples of the Archaic period. Presently, manifestations of the Paleo-Indian period in central Kansas have been limited to occasional surface finds of expertly and distinctively made projectile points.

The second major period of cultural development, known as the Archaic, is thought to have begun as early as approximately 8,000 B.C. in some areas and extended into the early part of the Christian era within the Central Plains region. At this time, human populations expanded, though still primarily subsisting with a hunting and gathering economy. However, they were probably somewhat more dependent upon the procurement of vegetational foodstuffs than the earlier Paleo-Indian groups. Evidence of adaptation included the use of grinding slabs which are found in the associated artifact assemblages. The contemporaneous fauna consisted of the modern forms of bison, deer, elk, etc. The artifact inventory generally contains chipped and polished axes and celts plus a large variety of chipped stone implements. Although the tools manufactured by Archaic peoples were obviously quite adequate, the fine craftsmanship usually associated with implements of the preceding Paleo-Indian group is often lacking. However, distinctive lithic specimens are present which can usually be associated with particular Archaic cultural manifestations. The Archaic period is

considered to be a time of adaptation, when environmental conditions were changing and the human population was growing throughout the Central Plains. The sites recorded are generally smaller than those of later groups, and represent temporary camping or habitation areas and sometimes burial sites.

Several burial mounds in north central Kansas have been identified as Late Archaic sites. Two of these mounds have been investigated by Society archeologists. One of the investigated sites was a stone-filled mound located in Jewell county which contained artifacts of shell and stone, similar to those associated with Archaic manifestations in other regions, as well as human skeletal remains of several individuals. Field analyses of the burials suggested that adults, adolescents, and infants of both sexes shared the tumulus (Witty 1979). A rock mound in Mitchell county, just south of Jewell county, has also been identified as being utilized during the Archaic period. This site, known as Range Mound, contained stone and marine shell artifacts plus a quantity of burned and unburned human bone fragments (Reynolds 1977:1-10). Presently, no known Archaic period habitation sites have been excavated in central Kansas.

The currently recognized Archaic manifestation came to a gradual end some time around the inception of the Christian era with the beginning of the Early Ceramic period. Major changes began to occur on the Plains as a result of the diffusion of new technologies and ideas and the probable assimilation of social mechanisms from the Eastern Woodland areas. Technological changes included such things as the adaptation and the manufacturing of ceramic vessels. Also usually included with the diffused traits, but probably dating somewhat later, was the acceptance and utilization of the bow and arrow which has been interpreted by the presence of small, corner-notched projectile points. Along with more extensive tool assemblages, inferences of domesticated plants are included by limited finds of such cultigens as corn (Wedel 1959:624).

The traits of this period are thought to have been diffused from the Middle Woodland Hopewellian peoples of the Illinois and Ohio river regions. The westward movement and adaptation of certain traits developed a Plains Woodland variant among the indigenous hunting and gathering groups which were then occupying the region west of the Missouri

river. The acceptance of these traits may have been the catalyst which helped create more stable communities. This particular settlement pattern may also be associated with more sedentary lifeways and probably an increase of the local populations. Changes in the social structure have also been reflected in the archeological interpretations of these Early Ceramic sites throughout the Plains.

Middle Woodland, or more specifically Kansas City Hopewell sites similar to those of the east are represented by villages in northeastern Kansas and northwestern Missouri. Farther west in Kansas, many of the predominant Woodland traits become less distinctive and more scattered as the topography and general environment changes although a site with distinctively Hopewellian artifacts was excavated in Ellsworth county, along the Smoky Hill river (Smith 1949:297-298).

Presently, the Keith focus is the primary Woodland variant recognized within the western two-thirds of Kansas. Small villages, of not more than six structures, have been associated with the Keith peoples in southwestern Nebraska and western Kansas. Calcite tempered, cord-roughened pottery is a distinctive characteristic of the Keith focus. Evidence of cultigens has not yet been reported. Mortuary practices associated with the Keith focus consist of primary and secondary interments and possibly cremations within ossuary pits. These burials often contain large quantities of shell beads and pendants manufactured from both marine and fresh water molluscs (Wedel 1959:552-553). Archeological investigations in the Wilson lake vicinity have indicated that Plains Woodland groups, and especially those of the Keith focus, inhabited sites along Hell creek (Witty 1962).

Following this period was a time when the populations again seemed to increase. Cultigens were definitely present and became important for the subsistence of the groups. This era is known as the Middle Ceramic, dating from approximately A.D. 1000 to A.D. 1500, when semi-permanent settlements were established. The houses were clustered in villages or distributed as extended communities along the streams. The ceramics of this period are distinctive inasmuch as the vessels are most often of a globular form with cord-roughened exteriors and tempered with indurated clay, sand, and sometimes shell. In Kansas and Nebraska, the major cultural manifestation is that of earthlodge dwelling peoples which is identified as the Central Plains tradition. The general artifact inventory for

the Central Plains tradition of the Middle Ceramic period in Kansas consists of numerous forms of bone implements including a variety of digging tools such as bison scapula hoes. Other items commonly found in the inventory are small, triangular, chipped stone projectile points as well as distinctively made knives, tools of ground stone and ceramic smoking pipes.

The regional cultural entity of the Central Plains tradition is the Smoky Hill aspect. Approximately 60 miles (96 km) east-northeast of Wilson lake is the Minneapolis site, a site of the Smoky Hill aspect. The Minneapolis site is an earthlodge village of approximately 25 houses lying along the Solomon river. Both the Nebraska and Kansas State Historical Societies have conducted intensive excavations at the site. The exposed floors of the excavated houses have yielded a large quantity of artifacts including numerous restorable vessels as well as rubbish-filled storage pits (Witty 1978: 57-58). Excavations at Wilson lake (Witty 1962) revealed sites which contained artifacts recognized as Smoky Hill aspect materials.

One of the most famous Smoky Hill sites is just east of Salina near the junction of the Smoky Hill and Saline rivers. This site, known as the Salina Burial Pit, or the Whiteford site, contains the skeletal remains of 148 individuals of both sexes, ranging in age from infants to mature adults. This site is considered to be a cemetery for local prehistoric inhabitants although it contained evidence of contacts with other contemporaneous groups living in different regions of the Plains.

In the area north and west of Wilson lake existed another prominent Central Plains tradition unit, the Upper Republican aspect. The Upper Republican manifestation is considered as being contemporaneous with the Smoky Hill aspect, but flourishing primarily within the Republican river drainage of south central Nebraska and north central Kansas. Many of the traits associated with the Smoky Hill aspect are also present at Upper Republican sites. Some of those traits consist of the earthlodge, a similar artifact assemblage and a reliance on hunting, gathering, and horticulture as a means of subsistence.

At Waconda lake, approximately 40 miles (64 km) north of Wilson lake, several Upper Republican occupation sites have been intensively investigated by University of Nebraska personnel (Lippincott 1978:81). The results of that

archeological work indicate that the Upper Republican settlement pattern along the Solomon river and its tributaries, in that vicinity, consisted of hamlets comprised of from three to five houses, sites with isolated houses, and also seasonal or temporary campsites which lacked houses (Lippincott 1978:81-93).

Because Wilson lake lies in the region along the known western margin of the Smoky Hill aspect and probably south-eastern limit of Upper Republican aspect settlement, it is probable that a diffusion of cultural traits occurred through contacts of the two groups. Since both the Upper Republican and Smoky Hill groups had similar artifact assemblages, as well as parallel subsistence and settlement patterns, the cultural remnants of these contemporary archeological aspects are quite homogeneous in an area which at some time was utilized by both groups. Four archeological sites investigated in the Hell creek valley at Wilson lake contained cultural components which have been identified as belonging to the Central Plains tradition. Only one site could be specifically identified as containing diagnostic materials of the Smoky Hill aspect (Witty 1962:89).

The last major archeological category is considered to be the Late Ceramic or Protohistoric period which begins some time around A.D. 1500. This period represents a time when larger and possibly more stable groups inhabited central and north central Kansas just prior, during and after the initial contact with the first European explorers and traders in the Plains. Documentation of the visitations by these early explorers, etc., provides historic information which, in some instances, can be utilized to project a more precise identity of prehistoric aboriginal groups. The best example of this connection relates to the "Quivira" groups sought by Coronado in A.D. 1541, who have been identified archeologically as the Great Bend aspect and historically as the Caddoan speaking Wichita Indians of Central Kansas.

Approximately 50 miles (80 km) southeast of Wilson lake, lies the most extensively studied Great Bend aspect site in the state. The Tobias site is located in Rice county and has undergone several intensive archeological investigations by amateur collectors, and professionals from the Smithsonian Institution and the Kansas State Historical Society. Those

studies have indicated that the site once contained a ceremonial area, grasslodges, midden mounds or trash heaps, and numerous storage or cache pits. The cultural features contained evidence of early Spanish contacts in the region and a subsistence pattern dependent on horticulture, hunting, and gathering. The numerous storage pits in the area revealed that surpluses of foodstuffs such as corn, beans, and squash were probably not uncommon at the village (Wedel 1959 and 1961, Witty 1977).

A Late Ceramic period archeological manifestation, in the Waconda lake region 45 miles (72 km) north of Wilson lake, is the White Rock aspect. The remains of this aspect are considered to be those of Siouan speaking peoples who occupied sites along the Solomon and Republican river drainages in the seventeenth century. The artifact assemblage is somewhat similar to the remains of the Oneota groups found in extreme northeastern Kansas, southeastern Nebraska, southwestern Iowa, and central Missouri (Marshall 1969).

Following the Spanish exploratory and military expeditions into Kansas from the southwest, came the French traders from the east who had established trading posts and forts along the Missouri river in the early eighteenth century. Although aboriginal groups may have been in contact with the French during the seventeenth century, the first recorded and official visit to the tribes in central Kansas occurred in 1724. At that time, Etienne Veniard Bourgmont, with a contingent of Kansa from along the Missouri, traveled westward to the central Kansas region where he made peaceable contacts with a group known as the Padouca, then occupying the western half of the state. The Padouca in the early eighteenth century hunted buffalos from horseback and were mounted warriors who rode horses with rawhide armor. These Padouca groups primarily traded with the Spanish as well as other tribes in the Plains (Hyde 1959:85) and are usually considered to be best classified as Plains Apache.

During the nineteenth century, the Wilson lake vicinity was occasionally inhabited by such historic tribes as the semi-sedentary Pawnee, nomadic Cheyenne, and other tribes including groups from the reservations of eastern Kansas. One account of these groups states:

The famous Pawnee road, which extended from Nebraska to the big bend of the Arkansas,... came through what is now Lincoln county and crossed the Spillman [creek] five or six miles above its mouth...Pottawatomies, Cheyenne, Sioux, Delawares, Kaws, Otoes, and Pawnees were all seen by early hunters in the valleys of the Saline and Spillman (Barr 1908:11).

Another account also mentions the route through the vicinity which was traveled by Pawnees and also additional ethnohistoric information.

...Wolf and Spilman [Spillman] creeks were on the road of war used by the Pawnee upon the Platte river, whose main occupation was stealing horses from the wild tribes on the Arkansas and south to Texas. The Pawnees, in parties from two to thirty, would start down from their reservation afoot, with five or six pairs of extra moccasins and several lariats, subsisting on game. They knew the country perfectly, as they formerly occupied it and still claimed it...The Pawnees had a regular route of travel, coming into the state [Kansas] near the northeast corner of Jewell county, south across Mitchell and Lincoln counties, across the northwest corner of Ellsworth county, into Barton county and the big bend of the Arkansas...Another time, in March 1861, near the same place [in western Lincoln county], a party of fourteen came along. They had twenty-four horses and mules, all with Mexican brands. They said they left their reservation on the Platte in the fall, afoot, when the leaves were on the trees, had been gone nearly seven months, and said they had been to Old Mexico. Some of their horses were loaded with rock salt from the Cimarron, and they made a map showing a lot of rivers beyond,...(Meade 1906:13-14).

A. C. Spilman surveyed township lines from Salina westward in 1859. During his work, he observed the countryside and commented about the lands along the Saline. In later years he reported:

The area over which we extended our lines was wholly uninhabited from Salina westward...It was a land rich in nature's gifts...A land whose fertile valleys and rich pastures and flowing waters, invited the oncoming settlers with a promise of comfortable homes and generous harvests of present competence and future affluence. Within its limits were found all the game animals common to the western Plains.

...Whitetail deer were numerous in the wooded coverts of the creeks and ravines. Antelope, in pairs and in bands of twenty or more, were a common sight. But the distinguishing and characteristic feature of the country was the immense herds of buffalo, in almost daily sight, fattening upon the rich upland grasses...In their migrations from one feeding-ground to another, hunters, both civilized and savage levied heavy toll and tribute upon the herds, and packs of wolves, black, white and gray, followed in the rear, preying upon the weak, disabled and wounded (Spilman 1905:7).

James Mead was one of the earliest Euro-Americans to establish some sort of settlement along the Saline river in the Wilson lake region. Mead established a hunting "ranch" of some permanence in present-day western Lincoln county in the late 1850s. Later, he commented about the once abundant wild fauna and topography of the region.

...It was a land of timbered rivers, streams of pure water fed by springs in the Dakota sandstone, broad valleys, rolling hills covered with a velvety coat of sweet grass, sandstone cliffs sculptured by nature in [the] form of ruined castles; monoliths, cyclopean walls, with cedar canyons and sparkling springs.

Over the entrancing land roamed countless numbers of buffalo, elk and deer. Beaver built their dams and sported undisturbed in the rivers and streams. Glossy black turkeys were as common as chickens about a farmhouse. Eagles soared aloft, and thousands of ravens, a bird peculiar to the Plains. There were

prairie-chickens of two varieties; occasional flocks of quail, of the Texas variety; fox-squirrels in the oak timber; raccoons, porcupines, foxes, otter; the lynx, wildcat and panther; badgers and prairie dogs; and everywhere big gray wolves and the musical coyotes, subsisting on the weak or fallen and the hunter's waste. On every side was animal life, and no one to disturb the harmony of nature except the occasional roving bands of the red men of the wilderness, who claimed the country as their own. Such was the Saline country as I found it in 1859...(Mead 1906: 8-9).

In 1860 numerous Euro-American hunting parties and adventurers, from the more settled regions of eastern Kansas, were traveling the "western" prairies of the state. One incident relates to two men, identified as Walker and Newhouse, who became disoriented along a tributary of the Saline near present-day Wilson lake. Apparently, darkness caught the men in the stream valley and they became more confused as they tried to find their way out and into more open country. After some time "they lost every sence of direction and, crawling under a shelving rock, remained there until the next day". To identify the stream, and to somewhat express their feelings concerning the experience, they called it "Hell creek". The lower reaches of the Hell creek valley are now inundated by the southeastern portion of Wilson lake (Lincoln county clippings:78).

Throughout the 1860s bands of Cheyenne raided the few settlers who had entered the Saline river valley and its tributaries in central Kansas. Although much has been written regarding the Indian depredations in the area, probably less than 20 Euro-Americans were killed or captured during this decade in the vicinity. When the railroad was being constructed through the area south of Wilson lake in 1867, workmen were often attacked by marauding groups of Indians. These Indian groups also hunted buffalo in the vicinity and were primarily identified as Cheyenne who seemed to constantly threaten the settlers and their livestock (Roenigk 1933, and Lincoln county manuscripts).

Although the first settlement of any significance began in Lincoln county in 1865, the county itself was not organized until 1870 (Andreas 1833:1421 and Barr 1908:43). The early

settlers primarily subsisted on small, cultivated, crops and the wild foodstuffs which were still abundant in the area. The following comments indicate, to some degree, that abundance:

...the unexcelled fishing afforded by the Saline river in the olden days. The water, instead of being muddy and sluggish as we see it now, was always clear and the fish could be seen against the clean sand bottom (McMullen 1939).

Elk, antelope, buffalo and wild turkey were plentiful and there were a few deer. The few settlers in the county hunted turkeys on moonlit nights, shooting them off their roosts and taking only what they needed (Noon 1943).

...Mr. Erhardt tells of starting from his home with a friend to get some tallow and killing ninety-two buffalos in one afternoon. This must have been before the year 1870. In ten years from the time the first settlers came, buffalo began to be very scarce in the county, very few were seen after 1877.

...A herd of elk between five hundred and a thousand, in number, coming down the valley from Spillman creek. They crossed the Saline where the town of Lincoln now stands...they walked through the sunflowers with their bodies partly hidden by the grass and weeds (Barr 1908:10-11).

Before 1869, the present area of Russell county contained no permanent settlers, according to Andreas (1883:1284), except a railroad station attendant and his family at Fossil Creek Station, present-day Russell (Roenigk 1933:168). In July of 1869, A. E. Mathew established a claim approximately three miles (4.8 km) southwest of Wilson in eastern Russell county. In 1870 several men "...took claims on East Wolf creek and passed the winter hunting buffalo and antelope..." (Andreas 1883:1284).

In April, 1871 the first permanent settlement was made in Russell county, at the Russell townsite, by a colony from Wisconsin (Mangum and Drake 1904:5). Bison were still abundant in the area as stated in the following:

During the summer of this year [1871], thousands of buffalo roamed over the prairies, and furnished delicious steaks, as well as fine sport for the settlers who were coming in every day. And not only were they plentiful on the prairie, but came into the streets of the towns just springing up (Russell county clippings 1:11).

Shortly after the railroad was completed, Texas cattle and their herders began to drift into the region. For four or five years, these herds grazed upon the abundant grass of the area (Russell Record 1897). In 1871, the town of Bosland was founded as a result of the booming cattle industry in the Plains. The promoters of this town felt "...it would be in the midst of a great cattle country" and had potential as an important shipping point for livestock consigned to the eastern markets. The name Bosland lost popularity and the name Wilson was adopted, though it was never to become a dominant cowtown (Blackmar 1912:2:921).

The first major prairie fire recorded for the area occurred in 1871. Supposedly the fire originated in Ellsworth county, near Fort Harker, and roared into the southern part of Lincoln county. Much of the rangeland was destroyed as well as "many thousand head of cattle" (Barr 1908:51). In the early spring [1872], following the devastating fire, was a period of sleet, snow, and bitter cold. Apparently a sleet storm, that matted and froze the grass, was followed by snow, which made the grass inaccessible to the grazing livestock. The relatively small amount of water contained in the streams "was frozen to the bottom. Cattle already thin and weak died by the hundreds, of starvation and thirst" (Russell Record 1897;25(52). Another account of that same season said "Cattle died by the thousands...In the spring, every available man was hired by the cattle owners to roam over the country to find and skin the carcasses of the dead cattle, which covered the land for miles" (Russell county clippings 1:272).

Hard times continued for the stock growers through 1872. In November of that year, another prairie fire "left the northern half of the county [Lincoln] a blackened and sooty waste between dark one evening and early morn of the next day" (Lincoln county clippings 1:50). An account of the winter of 1872-1873 relates "that over 20,000 cattle perished during this one season. The good that was blown by this ill wind was that the settlers found 'bone picking' to be highly profitable" (Russell Record 1897;25(52)).

Russell county was organized in 1872, the same year that the first ground was broken for farming purposes. According to Andreas (1883:1285), the total amount of cropland that year consisted of 601 acres (24 ha). The population of the county increased from 150 to 1,212 persons between 1870 and 1875 (Mangum and Drake 1904:6). Between 1874 and 1877, the population of Russell county steadily increased as new homesteads were established and new croplands were opened. In 1877 "...a large colony of Russians settled in the county." In 1878 two more groups of the same nationality settled in the area (Andreas 1883:1284-1285).

During the 1870s, Indians were still raiding in the western third of Kansas, but peaceable groups still frequented the Wilson lake area as indicated by the following excerpt:

...An occasional band of Indians appeared in the county since settlement, but they were peaceable and made no trouble. One band used to camp regularly in the early days, but made no trouble. This outfit camped over near the Frank Missimer place on the Saline north of Bunker Hill...Usually they stayed a few days, apparently to rest themselves and their horses (Russell county clippings 1:179).

In the summer of 1874 the Central Plains region was swept by hordes of invading grasshoppers. The insects devoured most of the green foliage throughout the state and practically annihilated the cultivated crops and hay meadows. The grasshoppers also stunted the growth of grass on the range as well as consuming practically all the leaves from the trees (Swehla 1914:477).

A Bohemian-American, F. J. Swehla, recognized the agricultural potential of the area and promoted settlement by other people of Bohemian heritage in the vicinity of

present-day Wilson. In 1874 Swehla filed a claim in Saline for land in northwestern Ellsworth county. Many immigrants came to the region in the spring of 1875 and became a major catalyst for the agricultural development of the area (Swehla 1914:474-477).

Another disastrous prairie fire occurred in March, 1879 when the northwestern townships of Lincoln county were burned. During this fire, three people were killed as a result of the burning grass (Barr 1908:51).

Many of the new settlers of Russell county began raising sheep in the late 1870s. By 1879, approximately 10,000 sheep were reported to be in the county (Andreas 1883:1285). In 1880 much of the rangeland livestock industry converted to sheep raising, especially in the steep and rugged sections which were not conducive to farming (Magnum and Drake 1904:6). By 1883 there were approximately 30,000 sheep in Russell county (Andreas 1883:1285). Cattle again became the major livestock industry about 1873 due to a higher margin of profit with less labor (Mangum and Drake 1904:6).

Along the northern shore of Wilson lake, near Cooper's Point, coal was discovered in 1880. A. G. T. Cooper called his coal mine the Gilt Edge, which was active until 1890 and provided him with the funds to build a large and elaborate ranch house in the vicinity (Van Dyke 1963). Another mining location along the north side of the Saline valley was the Phillips coal bank. Coal was also mined south of the Saline "along the Sheep creek breaks northeast of Bunker Hill" (Ruppenthal 1934). Concerning the coal of Russell county in 1883, Andreas (1284-1285) stated:

The only thing in shape of mineral yet discovered in the county has been coal, and this has been found and is being mined in different portions of the county. It is of rather inferior quality and is of the kind known as lignite... No happier discovery could have been made for the people, as ninety-nine percent of the county is destitute of timber.

East of Cooper's Point the short-lived Biays post office existed from 1885 to 1887. Although little information was found concerning this post office, it undoubtedly served the former residents of the present Wilson lake vicinity during that short period (Evert 1887:303, and Baughman 1961:12).

A Kansas atlas of 1887 (Evert 1887:303) mentioned the Shaffer Ranch, which then consisted of approximately six and one half sections (1664 ha) in eastern Russell county. Today that ranch has been mostly inundated by waters in the eastern quarter of the lake, except for the areas comprising Otoe park and most of Wilson state park. The 1885 state census records for Plymouth township of Russell county lists a C. A. Sheaffer, a 28 year old stockman, who had a wife and daughter, 20 horses, 320 stock cattle, one milk cow, ten hogs, and one dog. In 1884, 100 tons each of "tame hay" and prairie hay were cut on the ranch although only 160 acres (64 ha) were fenced (Decennial census, Kansas, 1885).

In 1887 a branch of the Union Pacific railroad was laid westward up the Saline valley, to Sylvan Grove and the mouth of Wolf creek, then northwestwardly. The townsite of Sylvan Grove was platted in 1877 although a mill was constructed in the vicinity in 1875 and a post office called Sylvan Grove had been established in 1872, approximately 2 miles (3.2 km) south of the townsite (Blackmar 1912:794 and Baughman 1961:125). At that time, the organization and building of the town of Lucas began although the townsite was first homesteaded in 1872 (Russell county clippings 1:160-163 and Blackmar 1912:192-193).

During the late 1880s the Russell County Immigration Association was formed for promoting additional settlement in the area. Leaflets distributed throughout the eastern United States advertised cheap land, fertile soil, and a healthy climate for the potential immigrants. Statistics from 1887, relating to the farming and livestock productions, gave the impression of an agricultural paradise, practically available for the taking (Russell County Immigration Association leaflet ca. 1888).

As most counties in Kansas, Russell county underwent a great transformation during the first 30 years of settlement. The following excerpts from an early soil survey (Magnum and Drake 1904) indicate this change.

Forestry is now receiving some attention. Walnut, oak, and cottonwood trees can frequently be seen in a flourishing condition.

The whole country is fenced off in sections by means of neat wire fencing, supported by stone posts, which are extensively quarried from the limestone that underlies the area.

The growing of wheat is at present the main industry and the annual production is steadily increasing (page 6).

Farms sell for from \$8 to \$25 an acre. The cheaper land lies in the rough or grazing section, and is valued from \$8 to \$10 an acre. The upland farms sell at from \$20 to \$25 an acre, while the bottom lands have an average value of \$20 (page 19).

The autumn of 1923 saw the birth of the oil industry in the region (Rubey and Bass 1925:13). Although no major oil fields were discovered within the immediate vicinity of Wilson lake, the area undoubtedly was affected by the boost to the economy which had almost totally been dependent on the somewhat unstable agricultural industry.

In 1964, the waters of Wilson lake began to inundate a portion of the central Kansas region which, in one hundred years, had changed from an open prairie "frontier" to domestic farmlands. Little evidence of these historic happenings has survived except in literature and the material cultural remnants at specific sites. Presently, the landscape is dotted with farmsteads and towns as well as being criss-crossed with roads and fences which only hint at the historic development in the region. Now only the archeological sites in the area can provide the information needed to theoretically reconstruct or supplement a wide range of past cultural activities or lifeways.

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

Throughout the past 33 years, archeological investigations have been conducted intermittently within the vicinity of the Wilson lake project. In 1947 a preliminary appraisal was made in the area to determine the presence of archeological and paleontological remains which would eventually be impacted by the construction of the lake, six sites were recorded during that initial work. M. F. Kivett, Bliss and Bauxar, and J. M. Shippee conducted this first archeological reconnaissance for the Missouri River Basin surveys of the Smithsonian Institution (Solecki and Shippee 1952:1).

In 1952 a subsequent archeological survey by Solecki and Shippee, identified 12 additional archeological sites within the boundaries of the then proposed lake project. That inventory included aboriginal habitation, tumuli, and petroglyph sites. During the field work, it was determined that nine recorded sites would either be inundated or threatened by lake related construction activities. Recommendations were made for additional and more intensive investigations of five of the twelve sites recorded during the 1952 survey, and one site recorded in 1947 warranted additional work (Solecki and Shippee 1952).

A petroglyph survey in the central Kansas region was intermittently conducted from 1955 to 1957 by personnel from the Museum of Natural History, University of Kansas. During that period, a site exhibiting petroglyphs was described in the Wilson lake project area (Horr and Johnson 1957). This site was identified as the Burnt City site (Horr and Johnson 1957:60). The location somewhat corresponds with the area presently known as Rock town and designated as the site 14RU12 (Solecki and Shippee 1952:6).

The next archeological work was conducted at the Wilson lake project in July and August of 1960. At that time, the Kansas State Historical Society, under a cooperative agreement with the National Park Service, excavated or tested five prehistoric sites, and recorded two sites which warranted no excavations. Thomas A. Witty, Jr., State Archeologist, served as the Principal Investigator and directed those studies. Most of the archeological investigations were conducted in the Hell creek valley, although other sites were visited during the season, that particular drainage contained a variety of prehistoric sites representing several cultural entities (Witty 1962 and 1980).

One site, 14LC301, yielded the remains of a Central Plains tradition house as well as numerous stone, bone, and ceramic artifacts. Identifiable floral remains recovered from the interpreted house floor consisted of charred corn cobs. The Ringneck site was an excavated rock shelter containing artifacts of both Plains Woodland and Central Plains tradition affiliations. A buried, single component, site which contained a hearth and Plains Woodland ceramics was extensively tested. A tri-component campsite, which was designated as 14RU302, yielded material traits common to Late, Middle, and Early Ceramic cultural periods. A site exhibiting evidence of human activity, according to the lithic remains, was discovered lying upon a rock outcrop, but warranted no further investigations. Several aboriginal petroglyphs were recorded by photography, measurements, and written descriptions (Witty 1962).

In 1978 a Cultural Resources Management Plan was written by Ungar for Wilson lake. The recommendations in that report emphasized the need for additional archeological studies which could partially be achieved through intensive survey and some form of site(s) preservation activities (Ungar 1978:33).

Recently, the Historic Preservation Department of the Kansas State Historical Society directed a comprehensive survey to inventory petroglyph sites in Kansas. During the late summer and autumn of 1979, petroglyphs in the Wilson lake project area were included with the inventory along with additional, complementary data which more thoroughly describe the sites.

Methodology

As proposed in the cultural resources management plan (Ungar 1978), the Scope of Work called for an archeological sample survey of at least 15% of four Public Use Areas. The four areas included Sylvan, Lucas, Otoe, and Minooka parks.

All of the available archeological data relating to the area were studied prior to the actual fieldwork to develop a research design. The limited systematic archeological data concerning the Saline river valley, and more generally for the western two-thirds of Kansas indicated a higher potential for habitation sites to be located along the natural stream terraces adjacent to the floodplains. A lower potential existed for

extensive habitation sites in the higher uplands lying some distance from springs or streams. Archeologists are aware that scattered ephemeral campsites, rock shelters, and other activity areas do exist in the relatively high or rugged uplands.

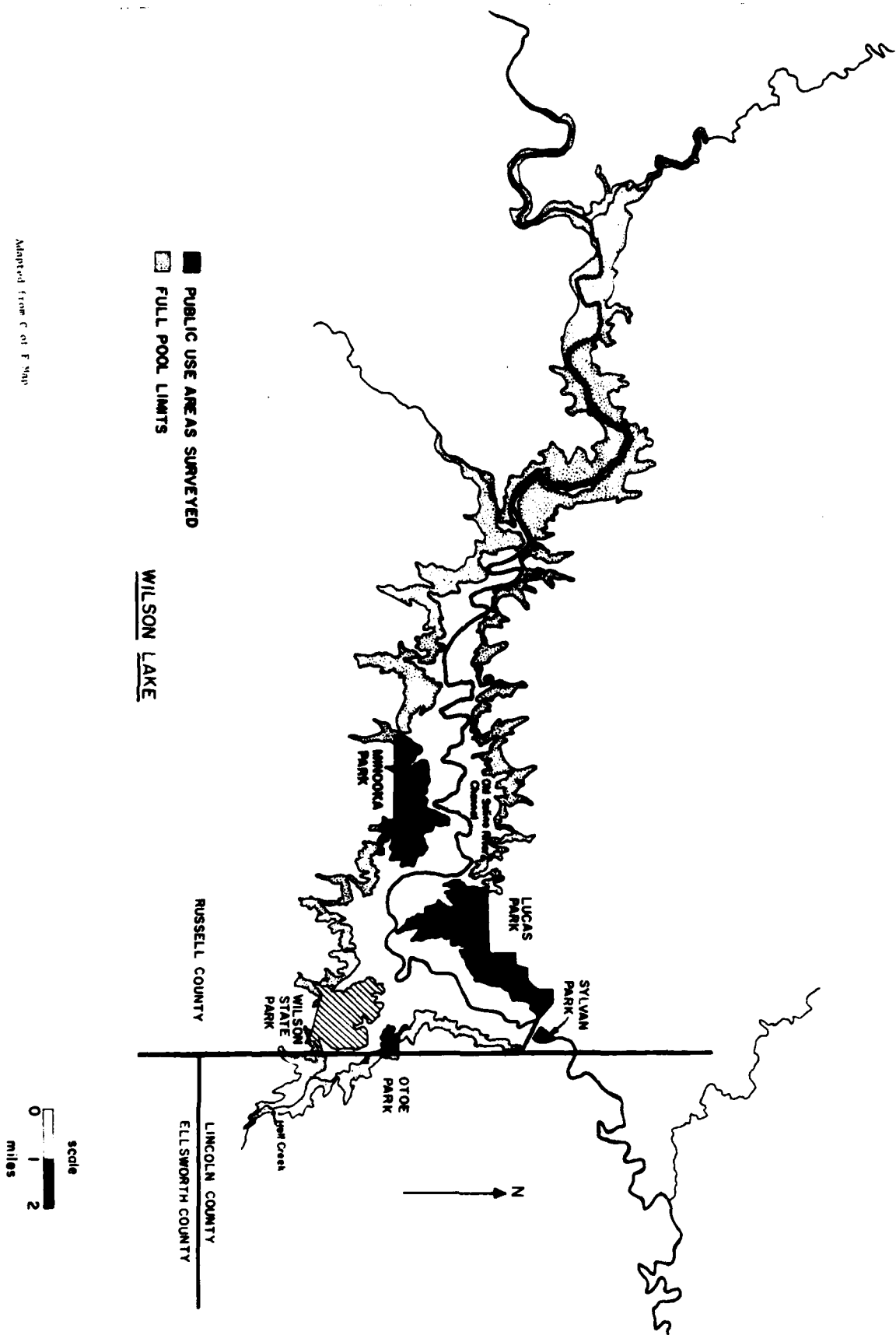
During the earlier archeological surveys at Wilson lake, the known and more obvious sites were recorded. Additional investigations were proposed to more adequately assess the cultural historical significance of the sites. The methodology utilized during the 1952 survey (Solecki and Shippee 1952:1-2) was "surface collecting and small test excavations" plus interviewing the local inhabitants for site information. At that time, "The entire reservoir was covered in the reconnaissance", but the authors do not state how extensively the area was studied. Because of limited funds and time, the archeological investigations of 1960 focused along the Hell creek valley. The reason for an intensive study of this area was partially due to the variety of sites and cultural entities which were recognized within one relatively small locus.

A review of the previously written archeological reports and site records demonstrated that one known site, which was identified as a mound, exists within the Public Use Areas. Most of the other sites at the lake have been inundated, eroded, excavated, or destroyed (Witty 1962, Ungar 1978:9, and Archeology files).

The methods utilized during the recent survey activities initially consisted of reviewing topographic maps and aerial photographs to possibly predict the existence of aboriginal sites from the interpretation of various geomorphic features. It was noted that a significant area comprising some of the parks, especially Lucas park, consisted of relatively steep slopes. The steepness of the slopes would not have been suitable for occupation as habitation sites although, in some instances, rock shelters, springs, and other stone outcrops may have been attractants for ephemeral aboriginal activities.

A non-exclusive pedestrian survey (King 1978:35-36), having differing levels of investigation intensity, was conducted at Wilson lake by the writer. The terrain of each Public Use Area somewhat varied and the survey techniques were adapted accordingly. This adaptation made portions of the survey a bit more exclusive in some areas, such as roadways, swimming beach areas, shelter areas, etc., than in others. In some areas transect surveys were conducted from the present shoreline to the high uplands.

The field survey included investigations of all accessible outcrops, within ravines and along their margins as well as hillside exposures, to detect the presence of petroglyphs or other evidence of human activities. The areas of the parks comprising the shorelines, eroded hill toes, and ridges were inspected during the pedestrian survey. Not only was a visual search made for archeological remains on the surface, but also a manually operated soil sampling tool and a shovel were utilized for limited subsurface testing. The Oakfield soil sampler is an apparatus designed to extract a soil core 20 mm diameter and 25 cm in length. The tool used during the survey can take samples from a depth of approximately 1 m. The soil core, obtained from below the surface, was examined in the field to detect the presence of burned cultural remnants such as charcoal, burned earth, bone fragments, etc. Small shovel test excavations were also used to expose larger areas. Most of the test excavation units were not more than 50 cm in depth nor more than 1 m per side.



SURVEY INVESTIGATIONS

For purposes of organization and because each of the Public Use Areas contained several variables, this report presents each park separately. As stated above, the survey and testing methods were adapted to each locale to obtain the best results from the field investigations.

SYLVAN PARK

The Sylvan Park Public Use Area lies below the dam and along the right or east bank of the Saline river, west of the outlet channel. The park area consists of approximately 40 acres (16 ha) (U.S. Army Corps of Engineers 1977:2-9). Presently, Sylvan park contains paved roads, a powerline, water supply stations, vault toilets, a group shelter, and parking areas which are associated with individual picnic or camping stations. Wilson lake does not border this particular park.

The topography is gently undulating. Predominately, the vegetation in the park is comprised of short grasses such as buffalo and grama although some smaller areas are overgrown with bluestem and numerous species of weeds. Trees in the area consist of cottonwood, elm, red cedar, Russian olive, and some conifers. Aerial photographs, on file at the project office, indicate that the area now comprising Sylvan park was cultivated farmland prior to the construction of the dam.

The area of Sylvan park has probably undergone much alteration in the past century as a result of farming, erosion, silting, dam construction and later by the establishment of a Public Use Area. During the initial construction of the dam, Sylvan park probably suffered the impact of construction activities as heavy equipment was utilized to pack and fill the core trench as well as the excavation and subsequent rip-rapping of the outlet channel. Later, when the park was constructed, roadways, waterlines, picnic areas, vault toilets, etc. required additional soil displacements.

During the pedestrian survey of Sylvan park, no archeological remains were discovered although the conditions were good for surficial observations. A manually operated Oakfield soil sampling tool was then utilized for random subsurface testing. No indications of cultural remnants were contained in the extracted soil core samples.

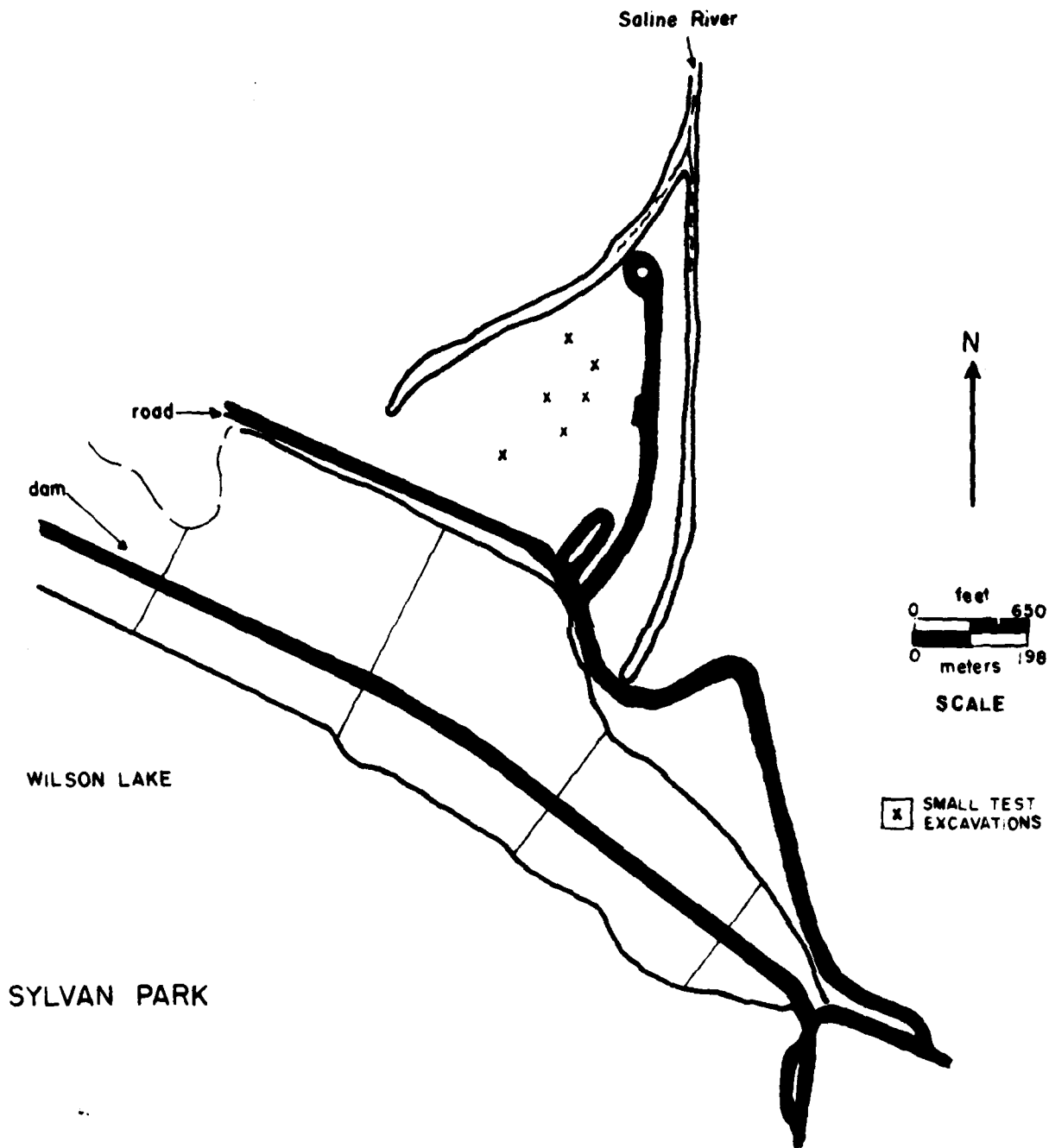


FIGURE 3 A plan map of Sylvan park and a portion of Wilson lake dam

Six small test excavations were placed in Sylvan park to more extensively investigate the archeological potential for this locale. The places selected for the shovel tests were primarily located on the small swales of the slightly undulating surface. The excavations were approximately 50 cm square and ranged in depth from 25 cm to 45 cm. The upper humus or top-soil layer in this vicinity was practically indistinct. In some instances it appeared to be only 5 cm in thickness. Below that stratum lay small rock rubble which appeared to have been previously disturbed, although there were no associated cultural materials.

In one slight topographic depression, a test pit was excavated to a depth of 45 cm. That excavation unit contained a stratum of dark humic soil to a depth of 43 cm where an abrupt change to a lighter colored, soft, sandy loam was observed. The depth of the dark humic soil in this locale was interpreted as being attributed to filling by erosional deposition. The underlying stratum of sandy loam appeared to contain little potential for prehistoric materials.

No well exposed soil profiles were observed in the Sylvan park vicinity. The rip-rap along the outlet channel and the lush foliage along the old river channel prevented any observations of the deeply cut banks.

In summary, no historically significant cultural remains were observed in Sylvan park. Due to the location of this Public Use Area, in the flood plain in the Saline river, as well as the past and present land usage, there is little potential for the existence of a shallow or salvageable undisturbed archeological site within the limits of Sylvan park.

OTOE PARK

Otoe park comprises a portion of the eastern limits of Wilson lake along the right or east side of the Hell creek valley. The Public Use Area consists of approximately 113 acres (45.2 ha) above the multipurpose pool (U.S. Army Corps of Engineers 1977:2-9) and contains a network of roadways, water supply station, boat ramp, sand swimming beach, plus picnic and camping stations. Additional picnic areas are currently being planned for future construction within the northeastern portion of the park.

The topography at Otoe park is comprised of gently rolling hill toes occasionally interspersed with small gently sloping

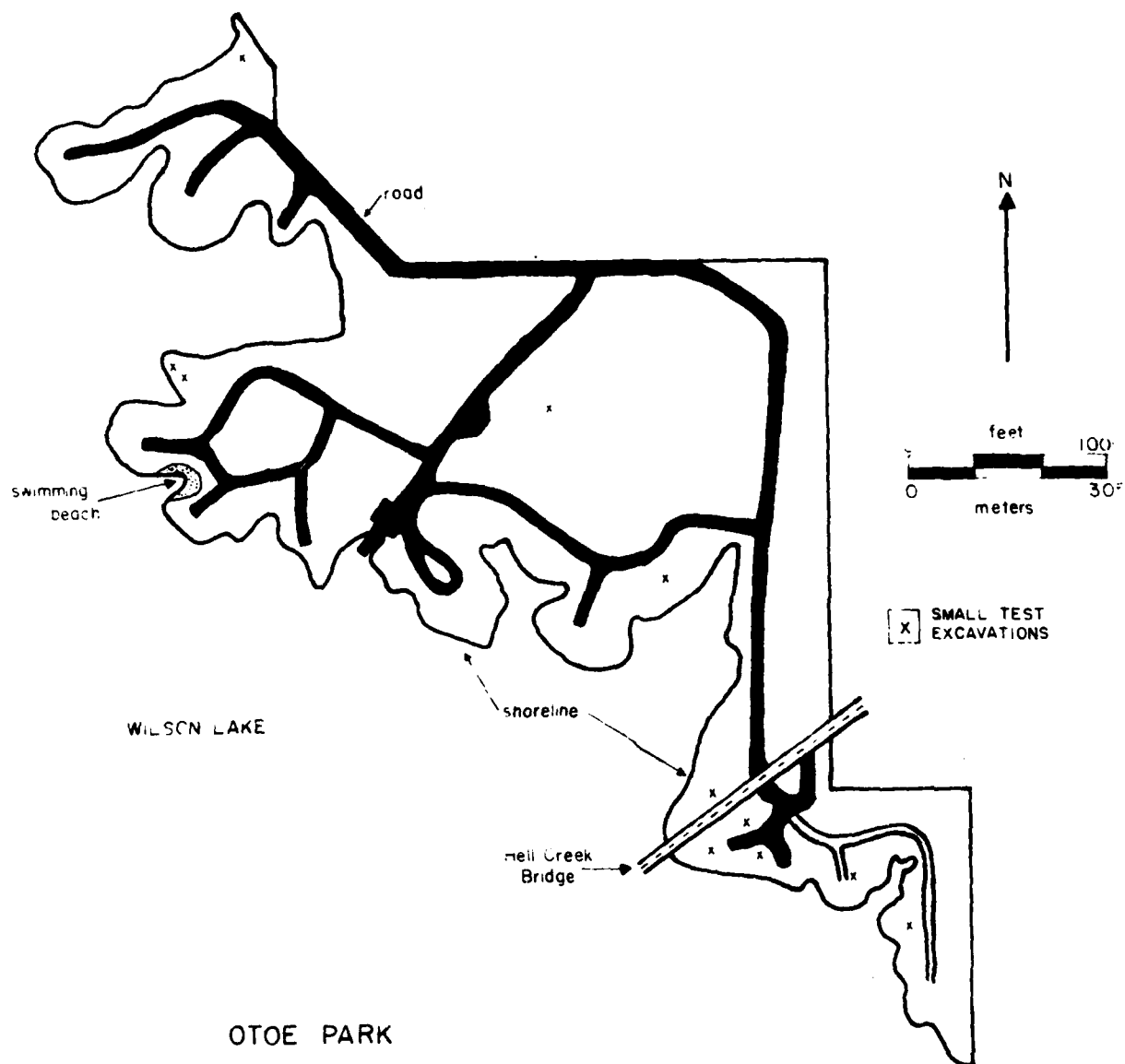


FIGURE 4 A plan map of Otoe park

gullies. The area now supports a variety of flora primarily consisting of varieties of grasses and trees. In the southern part of the park, a predominance of buffalo and grama grasses exists along with some yucca. The area retains no indications of having been cultivated although some soil displacement has occurred from activities related to the Wilson lake project.

The pedestrian survey of Otoe park began in the southern portion, south of Hell creek bridge. This area of the park was intensively surveyed during the 1960 investigations (Witty 1962). Since archeological sites were known to be in the proximity, a potential for the exposure of additional cultural materials from more recent weathering and land usage activities remained.

The portion of the park lying south-southeast of the Hell creek bridge is comprised of low rolling hill toes. An intensive pedestrian survey of this area failed to discover any prehistoric cultural remains. A survey to determine the presence of subsurface cultural indicators was then conducted by utilizing both the Oakfield soil sampler and a shovel. The testing was somewhat exclusive inasmuch as only the crests of the hill toes were subjected to additional investigations. Eleven test excavations were dug to various depths along the crests of the knolls; the deepest excavation was 35 cm, whereas the others ranged from 10 cm to 20 cm below the present surface. In most instances, at a depth of approximately 10 cm, culturally undisturbed small rock rubble or gravel was encountered. The stones were so abundant that they restricted the test excavations to a relatively shallow depth.

None of the test excavations within this particular area of the park contained any aboriginal or historically significant cultural materials. The testing activities confirmed the negative results of the intensive pedestrian survey. The results of the testing suggested that the shallow topsoil or upper humus zone, overlying the rock and gravel laden stratum in the area, would probably not have been conducive to prehistoric habitation of long-term duration; especially in regard to the establishment of storage pits and structures requiring a framework of posts. An additional factor concerning the absence of habitation sites within this vicinity is the lack of established stream courses which would have been tributaries of Hell creek; at best the ravines and draws would be very ephemeral as a fresh water supply.

The remainder of Otoe park, that area lying north and northwest of Hell creek bridge, was examined to determine the existence of archeological sites. This area provides a portion of the eastern margin of Wilson lake and is more heavily utilized as a recreation area than that area lying south of Hell creek bridge. Presently, this area supports both short grasses and a lush growth of bluestem intermixed with red cedar and other trees. The areas containing the taller grasses limited the amount of ground surface which could readily be inspected. Also the survey was somewhat impaired by the well established roadways in the park. During the road construction, soil displacement occurred as a result of borrowing, cutting, and filling. Additional soil displacement can be associated with the construction of camping and picnic stations.

The pedestrian survey in the main Public Use Area of Otoe park began with a shoreline reconnaissance. During this portion of the survey, paleontological remains were discovered eroding from a southwardly facing gravel embankment. No historically significant cultural remains were observed along the present shoreline. Survey investigations throughout the higher elevations or camping areas of the park indicated no surficial archeological remains were present in the primary usage area.

In addition to the random subsurface sampling throughout the park using the Oakfield soil sampling tool, five test excavations were dug. The test units were approximately 50 cm square and ranged in depths from 45 cm to 55 cm. Two small tests were located in a small projection of land near the northern margin of the main park area. One of these test units was excavated to a depth of 45 cm where culturally undisturbed, small, rock rubble made deeper testing unfeasible. Nearer to the shoreline, within the same locale, another test unit was excavated to a depth of 55 cm, from this point the Oakfield soil sampler was utilized to obtain soil cores from a depth of 1.1 m below the present surface. No indications of buried cultural remnants were observed in either of the test excavations.

Three test excavations were dug in the area lying east of the water supply station and northeast of the vault toilets. In this particular area, the U.S. Army Corps of Engineers has planned to construct additional picnic and camping facilities. Presently, the area supports a lush growth of bluestem grass which concealed much of the ground surface and made subsurface investigations necessary. The test units were dug to a 30 cm depth with a shovel prior to obtaining core soil samples from

a depth of 55 cm. The testing indicated that the upper 30 cm of the area is comprised of a soil stratum containing small, weathered rocks. Below the 30 cm depth, a sandy soil stratum of a tannish hue was encountered. The tan sandy soil appeared to underlie Pleistocene gravels in other portion of the area, indicating that deeply buried evidence of human occupation is probably lacking in Otoe park.

Additional testing using the Oakfield soil sampler, in the extreme northern portion of Otoe park provided negative results as to the existence of any aboriginal occupation sites.

Although no archeological sites were discovered during the survey, a paleontological site was recorded within the limits of Otoe park.

MINOOKA PARK

Minooka park is approximately in the middle of the lake's southern shore. The area of the park primarily consists of northwardly sloping footslopes or hill toes along the right or southern bank of the old Saline river channel. Presently, the park contains approximately 1,090 acres (436 ha) above the multipurpose pool (U.S. Army Corps of Engineers 1977:2-9). Various improvements and facilities have been constructed within the park to provide better recreational conditions for the public. Presently, the park contains several miles of roads, boat ramps, vault toilets, water supply stations, washhouse, sand swimming beach, as well as numerous picnic and camping stations. A cove in the southeastern portion of the park has marina facilities and appears to be heavily utilized by the public.

Much of Minooka park is covered by well established grasses, especially along the footslopes, which include bluestem, buffalo, grama, and others. Additional floral forms in the area consist of willow, cottonwood, and elm trees plus yucca, prickly pear cactus as well as riverine forms such as cattail, arrowhead, etc. Portions of the park retain evidence of having been cultivated prior to being transformed into a Public Use Area.

A shoreline reconnaissance was first conducted along the northern margins of the park. The stone outcrops along the shore were extensively investigated to detect the presence of aboriginal petroglyphs. Although a quantity of modern graffiti has been carved into the exposed Dakota sandstone, no distinguishable aboriginal petroglyphs were discovered. One historic building site was recorded during the shoreline survey, along the eastern margin of the park.

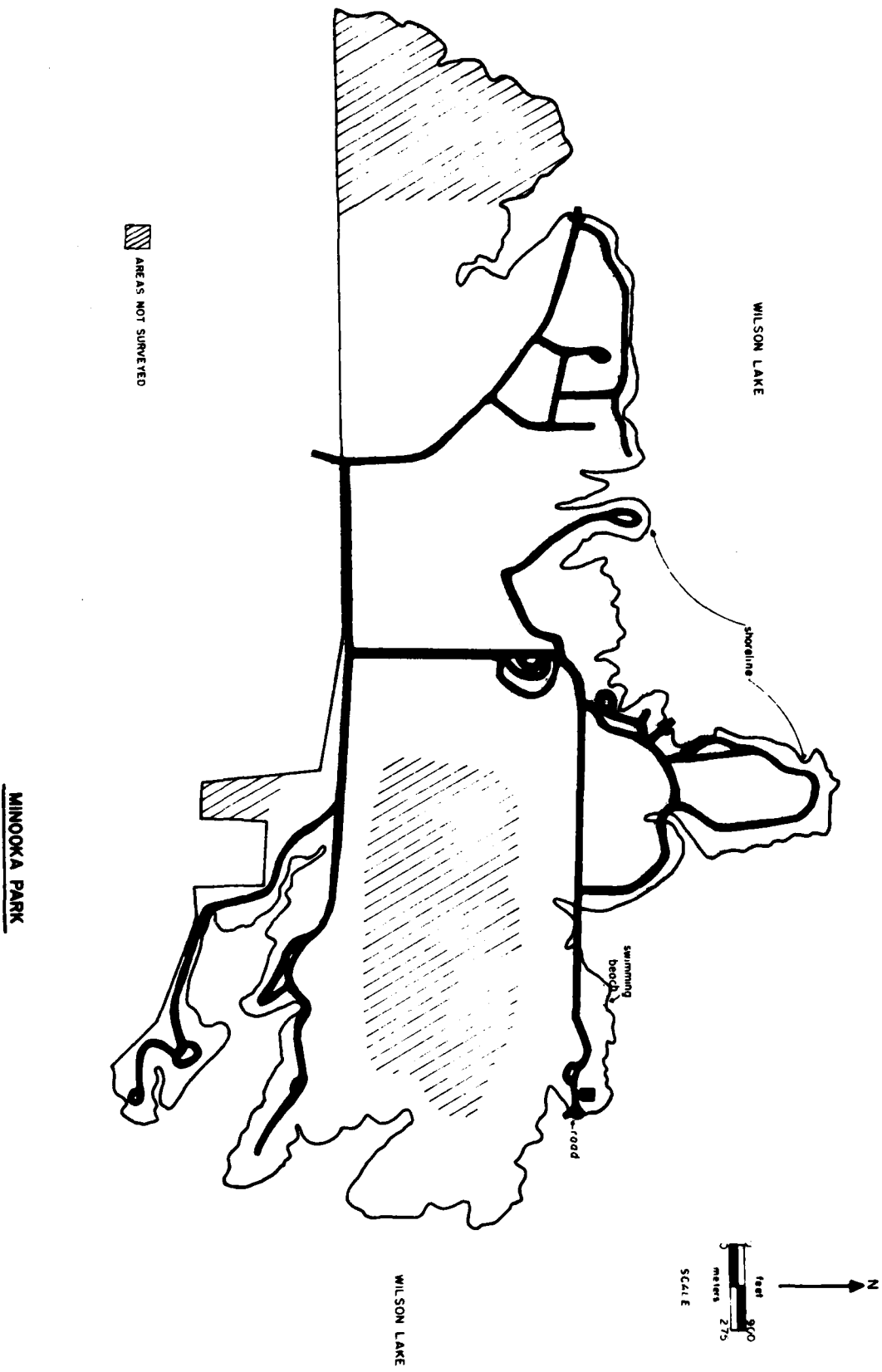


FIGURE 5 A plan map of Minooka park and areas not surveyed in 1979

The remainder of the Minooka park survey was conducted in the uplands and dry ravines of the area. Presently, most of the ground surface is concealed by a lush growth of bluestem, which in some instances is 80 cm in height, and was an impediment to surface observations during the pedestrian survey. An Oakfield soil sampling tool was utilized for most subsurface testing. The uplands or slopes of the park area were known to have archeological potential since one site, a mound, was recorded during an archeological survey in the early 1950s (Solecki and Shippee 1952).

A significant amount of soil displacement has occurred in the area as a result of development for a Public Use Area. The establishment of roadways and other park facilities required the use of heavy mechanized equipment for cutting, filling, and constructing the various modern improvements.

In some instances, where roadways have been deeply cut into the hillsides, exposed soil profiles could be inspected. One particular exposure, on a peninsular hill toe near the group shelter, is approximately 2 m in height and revealed some information concerning the characteristics of the underlying strata within the vicinity. This profile indicated that the uppermost humus zone is very thin and the soil underlying the sod is sandy and heavily laden with small pieces of weathered sandstone. No buried humus zones were observed within the cut suggesting that the area has probably been eroded through time, to such a degree, that the potential for a buried intact cultural stratum is quite low.

Along the western edge of the same lobe or hill toe of Minooka park, and north of the existing boat ramp, an eroded shoreline embankment was investigated. Although the embankment lies at a lower elevation than the above mentioned roadcut, the soil profile was similar. At this locus approximately 3 m of soil overlies the Dakota sandstone. No buried humus zones or other prominent strata were evident within the exposure of the tan-colored stone laden soil.

Surface conditions in the upper regions of the park required extensive random testing with the Oakfield soil sampler. A study of the extracted soil cores indicated that the upper humus zone along the crests of the hill toes varied in thickness. In some instances, the coring tool could be pushed to a depth of 40 cm whereas in others only a depth of 10 cm could be obtained.

During the survey of the footslopes in Minooka park, no additional archeological sites were recorded. Evidence of historic human activities, in the form of historically insignificant graffiti, was observed at a weathered sandstone outcrop atop a high knoll south of the present sand swimming beach. The earliest historic date which could be readily discerned on this particular outcrop was 1871. No older, aboriginal inscriptions were observed at this locus.

In summary, no prehistoric archeological sites were recorded during the pedestrian survey of Minooka park although one historic archeological site was discovered and recorded. The sloping and rocky terrain of the footslopes, as well as the distance from fresh running water, would probably not have been as conducive for prehistoric habitation as were the lower lying areas nearer to the Saline river. The westernmost portion of the park, comprising of approximately 130 acres (52 ha), was not surveyed during this pedestrian reconnaissance.

LUCAS PARK

Lucas park is the largest of the Public Use Areas at Wilson lake and lies along the northeastern portion of the project area. Much of the park consists of a high ridge and southwardly trending slopes along the left bank of the Saline river. The park area is now comprised of approximately 1,590 acres (636 ha) above the multipurpose pool (U.S. Army Corps of Engineers 1977:2-9). Lucas park contains several miles of roadways, two water supply depots, a boat ramp, two group shelters, an overlook area near the dam, vault toilets, a sand swimming beach, and numerous picnic and camping stations, plus a grass landing strip on a high north-south trending ridge.

Generally, most of Lucas park is relatively high with steep southerly footslopes. Most of the park is covered by a lush growth of little bluestem grass occasionally interspersed with shorter grasses such as buffalo, grama, and western wheat grass. Several varieties of trees grow throughout the area including cottonwood, elm, hackberry, and red cedar. Most of the park retains no indications of having been extensively cultivated for agricultural purposes although portions of the footslopes are apparently mowed for hay.

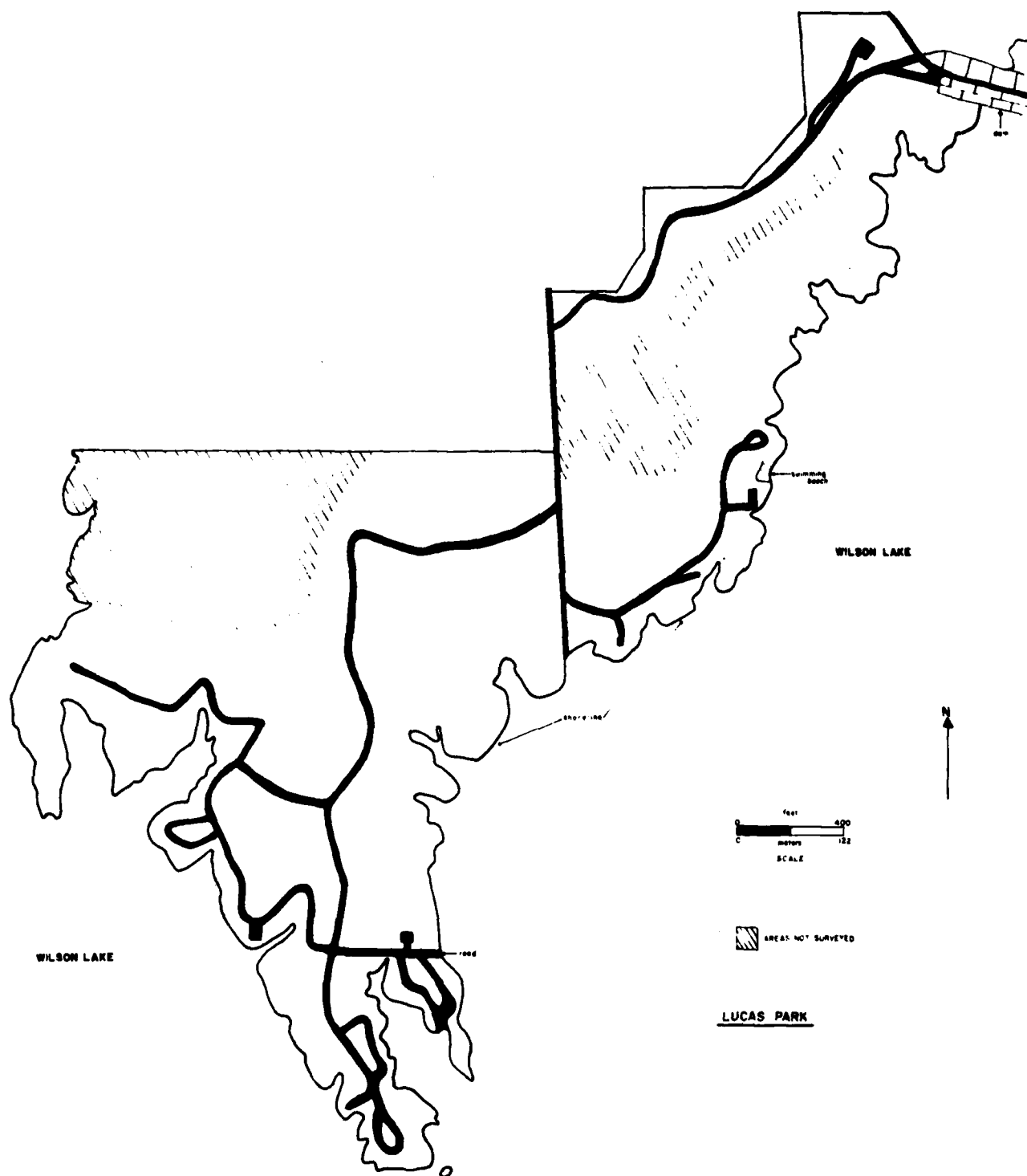


FIGURE 6 A plan map of Lucas park and areas not surveyed in 1979

A shoreline survey along the eastern half of Lucas park provided negative information concerning the existence of prehistoric and historically significant cultural materials. Following the shoreline survey, in the vicinity, the higher rolling hill toes in the same area were extensively investigated for cultural remnants. Due to the dense grass cover, the Oakfield soil sampler was utilized to detect the presence of subsurface indicators of human occupation. At the time of this survey, recent rainfall had softened the soil to such an extent that soil samples could be easily obtained from a depth of 45 cm below the present surface. No significant surficial cultural materials were observed nor were any indications of buried cultural components discovered in the extracted soil cores of the vicinity.

The remainder of the eastern half of the park consists of steep slopes and a high northeast-southwest trending ridge. Soil displacement has resulted from construction of a paved road along the crest of the ridge as well as developing an area for a half mile (.8 km) long landing strip. The Oakfield soil sampler was utilized for subsurface testing during the pedestrian survey of the ridge. No significant prehistoric or historic cultural materials were discovered although one small stone post quarry site was noted on the ridge. The heads of all the ravines along the southerly slopes of the ridge were surveyed for evidence of human activities; no sites were discovered. Most of the slopes within the eastern half of Lucas park are considered to be too steep for significant occupation or utilization by historic or prehistoric peoples.

The shoreline of the comparatively rugged western half of Lucas park was also examined. During portions of that survey, the wind and waves were so strong that it was impractical to scale many of the rock outcrops in search of petroglyphs. However, much of the shoreline was examined and no archeological remains were observed.

The uplands of the western portion of the park were extensively surveyed and random subsurface testing was conducted with the Oakfield soil sampler. Soil cores were obtained from depths ranging from 10 cm to 50 cm for field analysis. None of the core samples contained indications of past human activity. One archeological site was recorded during the upland portion of the pedestrian survey. The site consists of an earth and rock filled tumulus situated near the southern end of a high ridge which overlooks the Saline valley.

During the intensive pedestrian survey, a rock outcrop in the bottom of a draw, near the middle of Lucas park, was also investigated for petroglyphs. Although no distinctively aboriginal inscriptions were discerned, historic graffiti was noted. Other than miscellaneous names, initials, and notches, one inscription was: *Rick Thacker/born April 23, 1776/died April 24, 1846*. Although this particular inscription contains early dates, it probably lacks historic integrity. The name Rick probably was not a popular abbreviation for Richard during that time period, nor do the dates correspond with any known Euro-American activities in the region during the first half of the nineteenth century.

In summary, one archeological site was recorded during the pedestrian survey of Lucas park. Much of the area along the slopes and uplands would not have been conducive to prehistoric or early historic occupation for any significant duration of time. Several of the sandstone outcrops along the shore in the southwestern portion of the park were not investigated because of inclement weather, although the potential exists for aboriginal petroglyphs carved into the exposed sandstone.

THE SITES

Three sites were recorded and added to the inventory list of the Kansas State Historical Society during the 1979 pedestrian survey of four Public Use Areas at Wilson lake, Kansas. Of the three sites, one has been classified as paleontological, one an early Euro-American building, and the other a mound which was probably constructed by an aboriginal group(s).

Site 14RU309

A paleontological site designated as 14RU309 is in an area which is currently a portion of Otoe park lying north of Hell creek bridge. The observable portion of the site is approximately a 10 m square area of an eroded southwardly exposed gravel embankment along the shore of Wilson lake. The gravels which comprise most of the embankment have been tentatively identified as being a Pleistocene deposit.

The skeletal fragments collected from the shore appear to be weathered sections of tusk similar to those which have been recognized as belonging to extinct elephant forms. No cultural remnants were associated with 14RU309. Since this site is paleontological, an assessment of its scientific significance could not be made by the survey archeologist.

Site 14RU310

The remains of an historic building site was designated as site 14RU310. The site is near the shoreline, in an eastwardly trending ravine, along the eastern edge of Minooka park. The wall remnants of the structure indicate that a simple, one-room historic building, approximately 6 m long and 3 m wide was constructed in the sloping bank. Apparently, a hole was excavated to the approximate size of the desired dimensions of the finished building before stones were lain within the perimeter of the hole which resulted in semi-subterranean walls. The walls consist of naturally occurring sandstone from the locale and were lain without mortar. The entrance of the "dugout" is on the eastward or downslope side of the structure.

No cultural materials were collected at 14RU310 which suggest the temporal period this particular structure was constructed or occupied. Although the site is undoubtedly of historic construction, testing should be conducted at the location to determine its usage, historic significance, and temporal placement.

Site 14RU311

The designator 14RU311 was assigned to a mound which is on a high ridge near the western margin of Lucas park, overlooking Wilson lake and a portion of Rock town. The site probably does not comprise an area of more than 400 square meters since the stone and earth filled tumulus appears to be not more than 10 m in diameter.

No cultural materials were collected or observed at the site during the 1979 pedestrian survey. Using the Oakfield soil sampler, attempts were made to obtain subsurface information from the mound as well as the surrounding area, but the rock laden character of the soil prevented conclusive results.

The cultural affiliation and purpose of the mound cannot be determined until additional archeological investigations recover diagnostic materials. Although the mound probably is of aboriginal construction, a cultural/historical time period cannot be assigned to the site without further and more intensive study.

SUMMARY AND CONCLUSIONS

In 1979 the Archeology Department of the Kansas State Historical Society contracted with the U.S. Army Corps of Engineers, Kansas City District to survey 15% of the Public Use Areas at Wilson lake, Kansas. The actual fieldwork was conducted in October of that year by the writer.

The current Public Use Areas at Wilson lake are now comprised of Lucas, Minooka, Otoe and Sylvan parks. The parks contain a total of approximately 2,800 acres (1,200 ha) of which at least 15% of that area was investigated during the archeological pedestrian survey. Three sites were recorded as a result of the survey activities. A paleontological site, 14RU309, which lies along the shore of Otoe park was added to the list of Kansas sites. An historic building site, now designated as 14RU310, was recorded during the survey of Minooka park. During the pedestrian survey of Lucas park, a previously unrecorded mound was assigned the site designator of 14RU311.

Conclusive cultural interpretation could not be made as a result of the recent sample survey of the Public Use Areas at Wilson lake. Previous archeological studies in the vicinity have indicated that many of the recorded habitation sites were located nearer the Saline river or along perennial streams such as Hell creek. Subsurface testing in the parks suggested that much of the upland areas probably would not have been conducive to long term occupations due to the sandy and rocky characteristics of the underlying soils.

The potential for additional archeologically significant sites throughout the lake project area exists. Additional complementary archeological studies should be conducted at Wilson lake before more precise conclusions concerning the cultural/historical settlement of the area can be made.

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GLOSSARY

aboriginal - being the first of its kind present in a region and often primitive in comparison with those advanced types.

alluvial - transported soils which are shifted by running water

assemblage - an inventory of various material cultural traits

Caddoan - a language stock of southeastern North America or a member of these people

celt - an ungrooved stone axe, often chipped or polished and having the shape of a chisel or wedge

colluvial - transported soils which are shifted down hill slopes by gravity

Cord-roughened - a surface texture which has resulted from the application of a cord-wrapped paddle or stick on a ceramic vessel prior to firing or baking

cretaceous - relating to or being the last period of the Mesozoic era or the corresponding system of rocks

Dissected High Plains - physiographic region of north central Kansas

eolian - transported soils which are shifted by winds

ephemeral - transient; lasting one day only or intermittently

escarpment - a long cliff or steep slope separating two comparatively level or more gentle sloping surfaces and resulting from erosion or faulting

fauna - the animals or animal life of a region, period, or geologic stratum

flora - the plant life characteristic of a region, period, or special environment

friable - easily crumbled or pulverized

Great Bend aspect - an archeological term for groups found in Kansas ca. A.D. 1500-1700 which are thought to be ancestral Wichita bands

hearth - fireplace

hill toe - an eroded area of a hill which usually comprises a portion of the slope and is usually lower than the crest of the hill

homogenous - of the same or a similar kind of nature

indurated - to increase the fibrous elements of; to harden

lithic - relating to or being of stone

locus - center of activity or concentration, a single focus

methodology - a particular procedure or procedures of inquiry in a particular field

midden - a trash heap or refuse deposit

mollusc - invertebrate animals with a soft unsegmented body enclosed by a calcareous shell

mound - man-made earth and/or rock filled tumuli

Oneota - an archeological term for what are believed to be ancestral Siouan groups in Kansas

paleontology - a science dealing with the life of past geological periods as known from fossil remains

pedestrian survey - an on-foot archeological field study to identify and record archeological sites

Pleistocene - relating to or being the earlier epoch of the Quaternary or the corresponding system of rocks

scapula - animal shoulder blade

sedentary - settled; not migratory

Siouan - a language stock of central and eastern North America or a member of these people

tumuli - an ancient grave; mound grave

undulate - fluctuating; to form or move in waves, sinuous or flowing

APPENDIX A

Resumes

Principal Investigator

Name: Thomas A. Witty, Jr.

Position: State Archeologist
Department Head
Archeology Department
Kansas State Historical Society

Education: B.A. in 1958 with majors in geology and anthropology, a M.A. in 1962 with a major in anthropology from the University of Nebraska. Dissertation, *The Anoka Focus*, dealt with the identification of certain fifteenth and sixteenth century earth-lodge village sites in northern Nebraska and central South Dakota within a specific taxonomic unit.

Professional Experience:

- | | |
|--------------|--|
| 1957-1958 | Field experience began in 1957 at the Logan creek site under Marvin Kivett and the Nebraska State Historical Society. In 1958 as the field foreman for that same agency, worked on an historic Oto village site at Yutan, Nebraska, and later carried out highway survey on the then proposed interstate 80 route. |
| 1959 | Supervisor of the University of Nebraska field school digging at several sites in eastern Nebraska and central South Dakota. |
| 1960-present | To Kansas and the newly created position of State Archeologist and the head of the Archeology Department with the Kansas State Historical Society. The department was originally created to deal with reservoir salvage archeology in Kansas. The writer directly carried out and reported on archeological appraisal surveys for the John Redmond, Council Grove, Elk City, Perry, Cheney, Marion and La Cygne reservoirs as well as the Upper Verdigris Watershed. |

1960-present
(cont.)

Supervised the staff for the Big Hill, Grove and Onaga reservoirs. The writer directly supervised crews carrying on archeological salvage work in the Wilson, Milford, Council Grove, John Redmond, Perry and Big Hill reservoirs. The writer has overseen digs carried out by Society archeologists at Elk City, Grove, Cedar Point and Big Hill reservoirs, the Upper Verdigris Watershed, etc. These major excavations made possible identifications of the Munkers Creek phase, Eagle Creek complex, Cuesta phase, Grasshopper Falls phase, Greenwood phase, Pomona focus and Bluff Creek complex.

Programs: Since 1971 the department has had a contract with the Kansas Department of Transportation to carry out all advance surveys, testing and when necessary, salvage and emergency investigations to recover material threatened by highway construction. In 1974, the Society began an agreement with the Soil Conservation Service in Kansas to do all of their preliminary surveys, testing and when necessary excavations of endangered archeological materials in watershed areas under their supervision. Also since 1974, a program was established through the Secondary Road Department of the Kansas Department of Transportation to carry out necessary survey activity in connection with the federally assisted secondary roads for the 105 counties in the state. The State Archeologist advises the State Historic Preservation Officer on matters of preservation and compliance with federal laws as guidelines.

Interpretive Projects: The inception and development of the Pawnee Indian Village Museum in Republic county. This was work at an 1820s historic Pawnee Village site owned by the state of Kansas. Three seasons of excavations were followed by the construction of the museum building over a fully excavated earthlodge floor with all of the debris, artifacts, etc., left in situ as a large permanent display. A second interpretive work was the reconstruction of the ruins of the small seven room pueblo in the Lake Scott State Park area. Historically identified as the site of El Cuartelejo, the original pueblo was built by fugitive Taos and/or Picuris Indians at the site of a large Plains Apache Rancheria.

Public Service: Since 1961, the writer has been active with the state-wide group, the Kansas Anthropological Association. As early as 1963, the writer supervised digs both at the chapter

and the state organization level with these people. These included work at the Lewis site, a pre-contact Great Bend aspect village: Allison's Ranch and Fort Zarah, (ca. 1864-1867); Smoky Hill earthlodge sites near Salina and Minneapolis; and several Middle Woodland habitation sites near Larned, Alton, Valley Falls and Madison, Kansas; and investigations at the Tobias site, a major site of the village complex visited by Coronado in 1541. In 1975, the Kansas Archeology Training Program was instituted which resulted in certification for those amateurs demonstrating proficiency in the basic activities of Plains archeology, i.e., survey, excavation, laboratory and exhibits preparation.

Offices and Committees: Chairman of the Plains Anthropological Conference in 1965; a member of the Board of the *Plains Anthropologist* from 1969-1972; Secretary of the State Antiquity Commission; member of the Natural and Scientific Areas Advisory Board to the Kansas Park and Resource Authority; and Editor of the Kansas Anthropological Association Newsletter, 1961-1976; and the state representative for the Committee on Public Archeology of the Society of American Archeologists.

Teaching: Adjunct Professor at Washburn University since 1960 teaching courses in Introduction to Anthropology, Cultural Anthropology, North American Indian, Method and Theory in Kansas Archeology and a 30 program television series, *Kansas Archeology, the Land, Time and the People*.

Field Director

Name: Don Rowlison

Position: Public Archeologist
Archeology Department
Kansas State Historical Society

Education: Rowlison received his B.S. degree in 1972 from Kansas State University with a major in Anthropology. He completed the requirements for a M.A. degree at the same institution and that degree was awarded in 1976 in the field of Education. Specific research papers and projects worked on for credit toward that degree involved archeological studies. The major work was the reporting of archeological investigations of the Big Hill reservoir, Labette county, Kansas.

Field Experience:

- 1971 Participant in combined Kansas University-Kansas State University archeological field school under the direction of Dr. Patricia O'Brien. Work was carried out on archeological sites in the Parkville, Missouri area for the Missouri Highway Department.
- 1972 Foreman for Kansas University-Kansas State University field school under the direction of Dr. Patricia O'Brien. Work carried out in the Parkville, Missouri vicinity for the Missouri Highway Department.
- 1973 Field Assistant on an archeological crew for the Kansas State Historical Society directed by Tom Witty in the Big Hill reservoir area, Labette county, Kansas. These investigations were conducted cooperatively between the Kansas State Historical Society and the National Park Service.
- 1974 Survey archeologist with Kansas State Historical Society, six month employment on surveys of proposed highway corridors. Projects in Leavenworth, Doniphan, Ottawa and Bourbon counties.
- 1974 Employment as Archeological Advisor by the Anthropology Department of Wichita State University. Overall project supervisor was Dr. Arthur Rohn, and the work consisted of archeological investigations in the vicinity of the proposed Wolf Creek Atomic Power Plant in Coffey county, Kansas.
- 1974 Worked as private consultant to the Soil Conservation Service in the completion of an archeological survey of the Sand Creek Watershed, Harvey and Marion counties, Kansas. This work was coordinated and approved by the State Archeologist, Kansas State Historical Society.
- 1974 Contracted as private consultant to the Soil Conservation Service in completing inventory and assessment surveys of the proposed Wet Walnut Creek Watershed District of Rush, Ness and Lane counties, Kansas. This work was carried out under contract with the Soil Conservation Service and was under the overall supervision of the State Archeologist, Kansas State Historical Society.

- 1975 In January of 1975, Rowlison returned to KSU to earn an M.A. During the spring, contract work was completed for an engineering firm. During early summer, employment continued with WSU to excavate threatened sites. Also those sites recorded during a watershed survey, of three counties the previous year, were tested and assessed.
- 1976 Employed as project supervisor for investigations in the Big Hill reservoir area, Labette county, Kansas by the Archeology Division of the Kansas State Historical Society. Work to be funded by contract with the Tulsa District of the U.S. Army Corps of Engineers.
- 1977-1981 On the staff of the Historical Society, Rowlison conducted historic and prehistoric archeological surveys on the military reservations of Fort Riley and Leavenworth. These ongoing projects, intermixed with several small survey assignments, which included professional reports, continued until late 1979. In 1980, Rowlison continued miscellaneous survey work and became the Public Archeologist for the Society and co-editor for the Journal of the Kansas Anthropological Association.

Laboratory Supervisor

Name: Diane L. Good

Position: Laboratory Supervisor
Archeology Department
Kansas State Historical Society

Education: Associate of Arts in General Studies received in Neosho County Community Junior College. Diane completed Bachelor of Arts, cum laude in Anthropology at Wichita State University. Her Master of Arts was also in Anthropology at Wichita State University. Thesis: *The Role of Trance in Culture Adaptation.*

Professional Experience:

- 1974-1975 Administrative Assistant for Martin and Osa Johnson Safari Museum, Chanute, Kansas. Duties included: public relations, tour guide, photograph cataloguing, artifacts, and maintained financial and visitor records.
- 1975-1976 Work/Study Assistant for Museum of Man, Department of Anthropology, Wichita State University; catalogued materials, constructed exhibits, maintained records, lead museum tours.
- 1976-1977 Graduate teaching assistant for Museum of Man, Department of Anthropology, Wichita State University; catalogued new collections and loan materials, reorganized office and storage facilities, constructed exhibits, maintained records, trained docents, wrote publicity press releases, lead museum tours.
- 1979-1981 Archeology Laboratory Supervisor, Kansas State Historical Society, Topeka. Supervise two part-time technicians in archeology laboratory activities of processing artifacts from the field, keeping current map records of recorded sites, processing faunal remains for a comparative osteological collection, reconstructing ceramic artifacts, receiving and processing donated archeological collections, and supervising volunteer laborers.

Publications:

"Switzerland: an example of working multi-lingualism" in *Lambda Alpha Journal of Man* 8(2)1-11.

"The Role of Trance in Culture Adaptation", paper presented at the American Anthropological Association National Annual Meeting, Nov. 27 - Dec. 1, 1979, Cincinnati, Ohio.

Teaching: Adjunct faculty at Washburn University teaching one lower division, three-hour class per semester of Cultural Anthropology.

Appendix B
SCOPE OF WORK

Cultural Resources
Sample Survey of Public Use Areas
Wilson Lake
Saline River, Kansas

1. Introduction

a. Wilson Lake is a Corps of Engineers operating project located on the Saline River in Russell and Lincoln Counties, Kansas. The project area consists of 21,771 acres of Government-owned land of which 9,000 acres are permanently inundated by waters of the lake.

b. To date, the following cultural resources studies have been conducted at the Wilson project:

1948 - Kivett, M.F. and Shippee, J.M.

"Preliminary Appraisal of the Archeological & Paleontological Resources of the Proposed Reservoirs in the Smoky Hill Sub-Basin, Kansas".

1952 - Solecki, R.S. and Shippee, J.M.

"Appraisal of the Archeological Resources of the Wilson Reservoir, Russell County, Kansas, Supplement".

1962 - Witty, Jr., T.A.

"Archeological Investigation of the Hell Creek Valley in the Wilson Reservoir, Russell and Lincoln Counties, Kansas".

1978 - Ungar, C.A.

"Wilson Lake: A Preliminary Cultural Resources Management Plan".

c. The work defined herein to be performed by the Contractor is called for in the National Historic Preservation Act of 1966 (PL 89-665) and is authorized for funding under Public Law 86-523 as amended by Public Law 93-291. Accomplishment of this work will provide documentation evidencing compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" dated 13 May 1971, Section 2(a).

2. SCOPE

This work encompasses archeological survey of 15% (approximately 420 acres) of each of the Corps' operated Public Use Areas within the project and identification of materials recovered. The Contractor and his staff shall conduct this study in a professional manner, using accepted methodology in accordance with the proposed 36CFR66 and 33CFR305. The Contractor shall be responsible for the preparation of a report of findings, fulfilling the requirements stated below.

3. STUDY APPROACH

a. Survey. The survey for archeological resources can be accomplished by scientific investigation based on research design as stated in 33CFR305.18 and approved by the Government. Recovery of data and cultural material shall be in accordance with the proposed 36CFR66. Proper curation of recovered materials, and documentation of data is vital.

b. Problem Orientations. A preliminary cultural resources management plan for the project area has identified sites that are most affected by project operations. Past work concentrated on survey of now inundated project lands and Wilson State Park. This study is to be oriented toward a sample survey of the Public Use Areas to locate and evaluate archeological sites within the Wilson Lake project area.

Recommendations for a basic orientation for investigation of these sites have been broadly outlined in the 1978 Wilson Lake Preliminary Cultural Resources Management Plan.

c. Methodology. Justification for the locations selected has been stated in the 1978 report. In order to investigate sites the Contractor shall, in accordance with the research design, use accepted and appropriate field and lab methods in accordance with the proposed 36CFR66 including but not limited to the following:

(1) Survey 15% of each of the Wilson Lake Public Use Areas listed below:

Sylvan Park (old river channel area)	Otoe Park
Lucas Park	Minooka Park

(2) No extensive excavation is required under this purchase order; however, limited testing for delineation of site boundaries will be necessary.

(3) Collect a sample of surface cultural materials at each site.

(4) Photograph phases of field work, using black and white film and also illustrate diagnostic features and artifacts by either black and white photography or line drawings.

(5) Record provenience of features, including maps and graphs, when applicable.

(6) Collect materials for absolute dating (e.g. radio-carbon) when appropriate.

(7) Process, catalog, and curate all recovered materials.

(8) Make identifications of cultural materials to answer the research design and to provide a base for future use by the archeological profession as data for research.

(9) Perform all measurements using the metric system.

4. SCHEDULE OF WORK

a. Coordination and Meetings. The Contractor shall pursue the study in a professional manner to meet the schedule specified. Prior to the initiation of actual field work, the Contractor shall submit a research design for review and approval as stated in Section 3a. He shall also coordinate all field schedules and activities with the appropriate cultural resources coordinator, State Historic Preservation Officer (SHPO) representative, and the project office.

During the course of the study, the Contractor shall review the progress of the work performed with representatives of the Corps of Engineers and the SHPO.

b. Report Content and Schedule.

(1) A report of findings shall be prepared by the Contractor and his staff. The main text of the report shall be written in a manner suitable for reading by persons not professionally trained as archeologists. Detailed presentation and discussion of data of interest to the archeological profession shall be included in a second part of the report or as appendices. The report is intended to be of use and interest to the general public as well as of value to the profession. Use of illustrations is encouraged.

(2) The report shall be authored by either the principal investigator or project director. If the project director is not the author, he shall review and edit the report prior to submission of the draft and final versions.

(3) Thirteen (13) copies of a complete draft of the report shall be submitted to the Contracting Officer for purposes of Governmental review within eight (8) months after receipt of notice to proceed. (If excessive inclement weather or other delays occur, this date may be extended to one mutually agreed upon between the Government and the Contractor.) In addition to standard review procedures, the Government may (at its discretion) send the draft report and Scope of Work to three qualified professionals not associated with a State or Federal Governmental agency for peer review of the merits and acceptability of the report. After a review period of approximately two (2) months, the Government will return the draft to the Contractor. The Contractor then shall complete necessary revisions and submit the final report, which shall be professionally edited, within sixty (60) calendar days after receipt of the reviewed draft. The Contractor shall submit one set of originals and two copies of the final report of findings to the Government. The copies shall include all plates, maps, and graphics in place so that they may be used as patterns for assembling the final report. The Government will edit the final report and after approval, will reproduce this report and provide the Contractor ten (10) copies for personal use, plus two (2) copies for each major contributing author.

(4) The report shall include the following:

- a. Description of the study area;
- b. A discussion of each site investigated and identification of data mentioned above. A detailed description of sites and limited discussion of the recovered artifacts, presented both in support of the discussion in the text and also as valuable data for professional use of the report;
- c. A detailed description of the methods used in field and lab work;
- d. Recommendations which could be added to the preliminary cultural resources management plan for the operating project, and any suggestions for the archeological portion of the interpretive program;
- e. Illustrations, photos, maps, tables, and graphic representations of data appropriate to the text, such as illustrations of diagnostic artifacts;
- f. One map of the project indicating areas surveyed during this study. This map should also include all known sites. (Color overlay reproduction is available.) Map for inclusion in the report must be presented in such a manner that exact site locations are not disclosed.
- g. A glossary of terms;
- h. Reference section with all sources referred to in text or used for report, personal communications, interviews, bibliography, etc.;
- i. Copies of all correspondence pertaining to review of the draft report. These are to include the comments of the State Historic Preservation Officer, Heritage Conservation and Recreation Service, and the peer reviews (if applicable) by professional archeologists requested by the Government, together with responses to each of the comments given. The Scope of Work is to be included in this section; and
- j. Listing of principal investigators and field and lab personnel with their qualifications as an appendix.

(5) The final originals and two copies of the report shall be typed single-spaced on one side of paper with the margins set for reproduction on both sides of 8 x 10½ inch paper. One of the copies shall be assembled in accordance with the attached style sheet. (To be added later.)

c. Other Information. Six copies of materials not suitable for publication in the report shall be submitted with the draft. These materials include feature maps, large amounts of specialized statistical analysis data, repetitious photographs, a complete listing of all materials recovered,

and where records are maintained, and other documentation not of interest to most readers of the report. Averages, graphs, or summaries of statistical data are to be included in the publishable report. Large masses of specialized statistical data, such as certain artifact measurements, shall be stored on computer tapes or in microfilm so that it can be made readily available to interested persons. Publication of such bulk statistics in the report is not appropriate.

d. Materials Not for Release. Materials dealing with exact archeological site locations are considered confidential and are not to be published or released. Materials which shall accompany the report but which are not to be included in the report consists of:

(1) Six (6) copies of USGS and base maps indicating exact locations of all archeological resources and areas which were physically surveyed. These shall be provided to the Government and SHPO.

(2) Six (6) copies of survey forms for any newly recorded sites discovered incidental to this contract. These shall be provided (four (4) to the Government, and one each to the SHPO and the Kansas State Historical Society.)

e. Storage of Materials. Attached to the letter of transmittal for the final report shall be a listing of all cultural materials found during the field investigations and a Certificate of Authenticity for these materials. Collections shall be properly stored in containers clearly marked "Property of the U.S. Government, Kansas City District, Corps of Engineers." Retrieval of these materials by the U.S. Army Corps of Engineers for use by the Government is reserved. If the materials are to be removed from the curatorial facilities, this action must be approved in writing by the Contracting Officer.

5. FURTHER RESPONSIBILITIES OF THE CONTRACTOR AND GOVERNMENT

a. Contract Modifications.

(1) Because of the complex nature of the prehistoric and historic resources being surveyed, it is recognized that additional testing may be required. If in the opinion of the Contracting Officer such additional work is needed, the contract will be modified pursuant to the provision of Article 2, Changes, of the Contract.

(2) The work identified in this document shall be complete in itself. There will be no assurance from the Government that additional work will follow, nor should such work be anticipated.

b. Data Availability. The Government shall provide the Contractor with available background information, maps, remotely sensed data reports (if any,) and correspondence as needed. In addition, the Government will provide support to the Contractor regarding suggestions on data sources, format of study outline and report, and review of study progress.

c. Right-of-Entry and Crop Damages. The Contractor shall have right-of-entry on all property owned by the Government. Compensation for damages to crops planted on Government property leased to various individuals shall be the responsibility of the Contractor.

d. Publication. It is expected that the Contractor and those in his employ, may during the term of the contract, present reports of the work to various professional societies and publications. Outlines or abstracts of those reports dealing with work sponsored by the Corps of Engineers shall be sent to the Kansas City District Office for review and approval prior to presentation or publication. Proper credit shall be given for Corps of Engineers' sponsored work, and the Corps of Engineers shall be furnished six (6) copies of each paper presented and/or published report.

e. Court Testimony. In the event of controversy or court challenge, the Contractor shall make available, as appropriate expert witnesses who performed work under contract who shall testify on behalf of the Government in support of the report findings. If a controversy or court challenge occurs and testimony of expert witnesses is required, an equitable adjustment shall be negotiated.

f. Safety Requirements. The Contractor shall provide a safe working environment for all persons in his employ as prescribed by EM 385-1-1, "General Safety Requirements," a copy of which will be provided by the Government.

g. Evaluation for National Register. The Contractor shall evaluate newly found archeological sites to ascertain which sites warrant extensive testing and to determine their suitability for nomination to the National Register of Historic Places.

6. STAFF AND FACILITY REQUIREMENTS.

a. Project Director and Archeologist. Minimum qualifications are set forth in the proposed 36CFR66, Appendix C, which is provided in page 538 in the Federal Register, Vol. 42, No. 19, January 28, 1977.

b. Consultants. Personnel hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence.

c. Equipment and Facilities. The Contractor must also provide or demonstrate access to:

(1) Adequate permanent field and laboratory equipment necessary to conduct operations defined in the Scope of Work; and

(2) Adequate laboratory and office space and facilities for proper treatment, analysis, and storage of specimens and records likely to be obtained from the project.

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